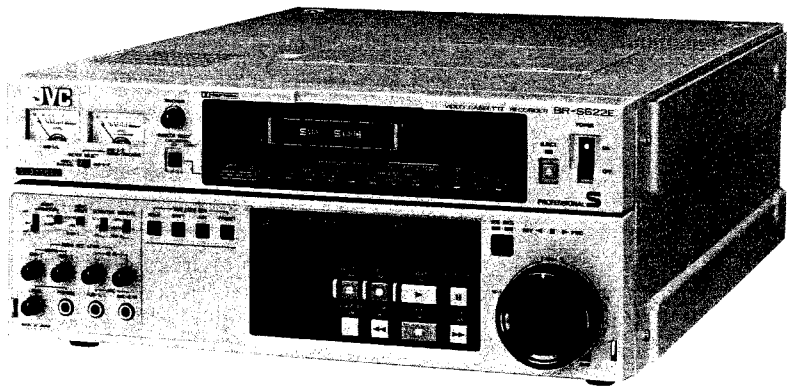
INSTRUCTIONS

JVC

BR-S622E

VIDEO CASSETTE RECORDER
VIDEOKASSETTENREKORDER
MAGNETOSCOPE A CASSETTE

S-VHS 625 VHS PAL Hi-Fi



PQD30002-284

SAFETY PRECAUTIONS

Warning Notice
FOR YOUR SAFETY (Australia)

1. Insert this plug only into effectively earthed three-pin power outlet.
2. If any doubt exists regarding the earthing, consult a qualified electrician.
3. Extension cord, if used, must be three-core correctly wired.

IMPORTANT (In the United Kingdom)
Mains Supply (AC 240 V~)
WARNING - THIS APPARATUS MUST BE EARTHED

The wires in this mains lead are coloured in accordance with the following code;

GREEN-and-YELLOW:	EARTH
BLUE:	NEUTRAL
BROWN:	LINE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows.
The wire which is coloured GREEN-AND-YELLOW must be connected to the terminal in the plug which is marked with the letter E or by the safety earth symbol ⏚ or coloured GREEN or GREEN-AND-YELLOW. The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or which is coloured BLACK. The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

POWER SYSTEM
Connection to the mains supply
The operating voltage of this set is preset to 220 – 240 V~ at the factory.
Before connecting to mains, check that the voltage selector on the rear panel is set to the same voltage as your local mains supply.
Adapting to local power line
This set operates on 110 – 127 V/220 – 240 V~ AC, 50/60 Hz.
If the preset voltage is different from the power line voltage in your area, reset the voltage selector by inserting a screwdriver into the slot of the voltage selector and turning it until the correct voltage is displayed.

This unit is produced to comply with Directives 76/889/EEC, 82/499/EEC, 87/308/EEC, and IEC Publ.65.

WARNING:
TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION
To prevent electric shock, do not open the cabinet. No user serviceable parts inside. Refer servicing to qualified service personnel.

Note:
The rating plate and the safety caution are on the bottom of the unit.

WARNING:
It should be noted that it may be unlawful to re-record pre-recorded tapes, records, or discs without the consent of the owner of copyright in the sound or video recording, broadcast, or cable programme and in any literary, dramatic, musical, or artistic work embodied therein.

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HOW TO USE THIS MANUAL

This manual introduces you to the BR-S622E S-VHS Recorder and shows you how to make the most of its many advanced features. Because the manual is written for the person who has some experience in videotape editing and is familiar with the terms and techniques described, explanations and definitions are kept to a minimum.

Also, some functions are available only when the corresponding optional boards are plugged in. Whenever these functions are referred to in the text, it is assumed that the corresponding boards have been installed.

- TBC functions are available only when the optional SA-T22E Time Base Corrector boards are installed.
- Component Y/R-Y/B-Y outputs are available only when the optional SA-T22E Time Base Corrector boards and accompanying component output connector board are installed.
- TC functions are available only when the optional SA-R22E Time Code Reader/Generator board is installed.
- 45-Pin parallel interface is possible only when the optional SA-K28E Interface board is installed.
- RS-232C interface is possible only when the optional SA-K27E Interface board is installed.
- Y/C 686/Y/C 924 Output is available only when the optional SA-E92E Output board is installed.

IMPORTANT

Instructions for all operations are based on the setup menu's initial settings unless otherwise specified. We recommend that you familiarise yourself with the available settings before operating the VCR. For more information, please refer to "Setup Menu", ☞ p.26

PRECAUTIONS

VCR

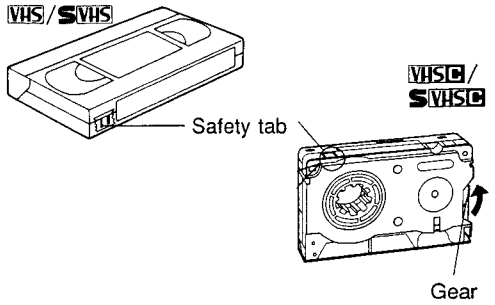
- Avoid using the recorder in places subject to the following conditions:
  - extreme heat, cold, or humidity,
  - dust,
  - vibrations, and
  - poor ventilation.
- Be careful of moisture condensation.
  Do not use the recorder immediately after moving it from a cold place to a warm place. The water vapor in warm air will condense on the still-cold video head drum and tape guides and may cause damage to the tape and the recorder.
- Handle the recorder carefully.
  - Do not block the ventilation openings.
  - Do not place anything heavy on the recorder.
  - Do not place anything which might spill on the top cover of the recorder.
  - Use in horizontal (flat) position only.
- During transportation,
  - Avoid violent shocks to the recorder during packing and transportation.
  - Before packing, be sure to remove the cassette from the recorder.

VIDEO CASSETTES

This recorder uses S-VHS, S-VHS-C, VHS, and VHS-C cassettes.
Only cassettes recorded in the standard play (SP) mode can be played on this recorder. LP recording is not possible.

S-VHS: SE-180 for 180 minutes, SE-120 for 120 minutes, SE-60 for 60 minutes, and SE-30 for 30 minutes of recording.
S-VHS-C: SE-C30 for 30 minutes of recording.
VHS: E-180 for 180 minutes, E-120 for 120 minutes, E-90 for 90 minutes, E-60 for 60 minutes, and E-30 for 30 minutes of recording.
VHS-C: EC-30 for 30 minutes of recording.

- To prevent accidental erasure, remove the cassette's safety tab. To record on a cassette whose safety tab has been removed, cover the hole with adhesive tape.
- Before loading a compact cassette, be sure the tape is not slack. If there is any slack, turn the gear on the cassette in the direction of the arrow to take up the slack.
- Avoid exposing the cassettes to direct sunlight. Keep them away from heaters.
- Avoid extreme humidity, violent vibrations or shocks, strong magnetic fields (near a motor, transformer or magnet), and dusty places.
- Place the cassettes in cassette cases and position vertically.



FEATURES

Newly-developed full-size/compact-compatible cassette loading mechanism

Similar in principle to the loading mechanisms employed in M-II, 3/4-inch, and other high-performance professional equipment, the BR-S622E's newly-developed cassette loading mechanism can directly accept both regular and C-sized S-VHS cassettes. The tape transport system has also been improved to provide faster search speeds and more stable transport. C-size S-VHS cassettes are already popular in image acquisition — as exemplified by the success of JVC's GY-X1 S-VHS-C camcorder — and are expected to assume a more important role in distribution, on-air transmission, and other applications.

Open-ended system architecture with plug-in TC and TBC capability

To better meet the requirements of different edit suites, the BR-S622E has been designed to permit open-ended system expansion. Built-in interfaces are provided for 9-pin RS-422A serial remote, COMPOSITE IN/OUT, and Y/C443 IN/OUT. Further system expansion and customisation is facilitated by a variety of optional "snap-in" boards. These include a time code reader/generator (LTC/VITC), a TBC with field memory and COMPONENT OUT circuit, as well as a 45-pin remote control board, an RS-232C remote control board for connection to a computer, and a Y/C 686/Y/C 924 OUT processor board. Since these circuit boards can be slotted directly into the BR-S822E, it can easily be configured to fit into any existing system without the need for expensive alterations or additional space.

High-quality pictures

S-VHS picture quality * has been improved still further with the addition of advanced circuitry including a digital Y/C separator and digital DOC. Moreover, this high picture quality is maintained through multi-generational dubbing; even after as many as five generations, the results match those available from 3/4-inch equipment. For improved playback picture performance, noise reduction circuitry and switching noise masking are provided.

* Technology licensed by FAROUDJA Laboratories.
* Employs chroma-enhancing technology co-developed by JVC and FAROUDJA Laboratories and modified for S-VHS applications.

Fully-equipped for high-performance professional edit feeding

The BR-S622E is equipped with a comprehensive set of studio-level feeder functions such as colour frame servo, auto H-Phase lock, and capstan bump. Search/jog dials are also provided for fast and accurate location of edit points with maximum visual search speed increased to 32x.

Menu Display and On-Screen Mode Check

For easy set-up and customisation, the BR-S622E features a menu display which allows simple dial setting and switching of most basic functions while referring to indications on the counter display or on-screen. As a result, many seldom-used external switches have been eliminated. Even functions normally requiring DIP switch resetting can be switched directly via the menu display. On-screen mode check and warning indications are also provided.

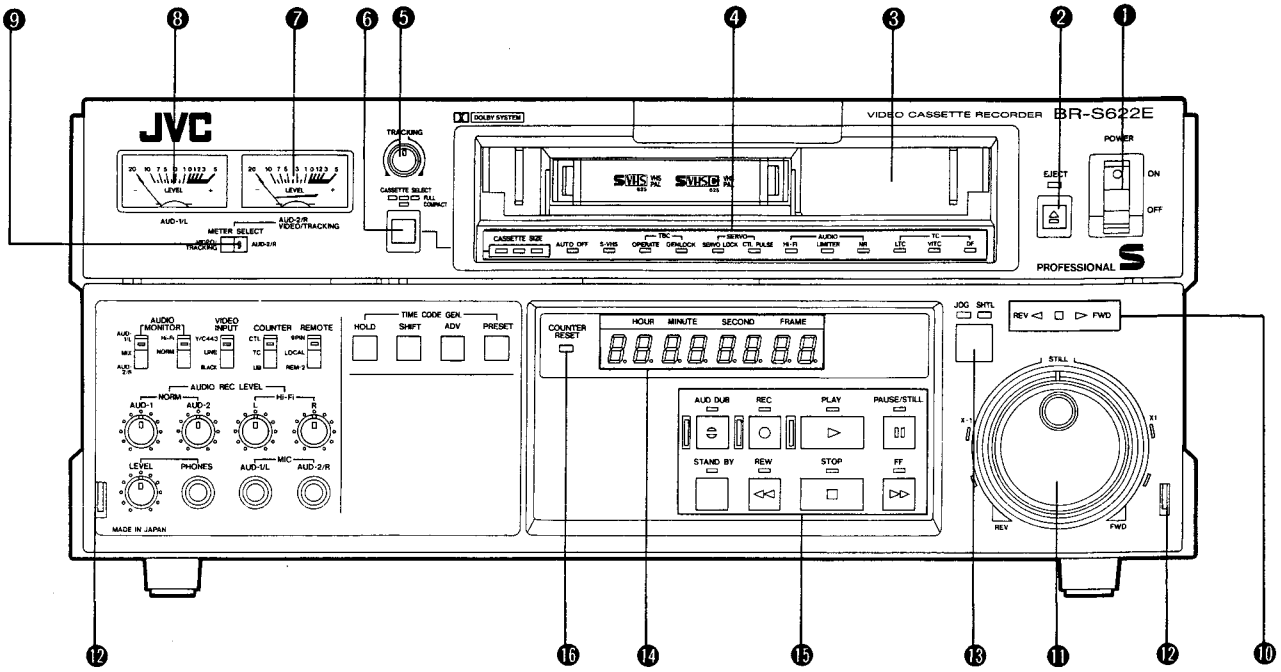
Other features

- 4-Field sequence colour frame servo
- Hi-Fi Stereo system with Hyper-tangent system to minimise switching noise for a dynamic range of more than 87 dB
- Two-channel normal audio with switchable Dolby B* noise reduction
- Independent audio level controls for all four channels
- XLR balanced audio connectors
- Two level meters switchable between Hi-Fi and Normal audio; the right meter can also function as a video level/tracking meter
- Video recording level control
- 8-Digit time counter for indication of editing data in either TC or CTL mode
- Built-in black burst signal generator
- Wide-aspect (16:9) ID recording capability
- External sync input for reference video
- Y-Frequency response control
- Tiltable control panel
- Heavy-duty full-loading mechanism with high-speed chassis
- Self-diagnostic warning system
- Front-access test points
- Automatic head cleaning mechanism
- 9999-hour meter switchable from tape counter
- Headphone jack with adjustable level output
- 19-inch EIA rack mounting

* Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation. "DOLBY" and the double-D symbol ⧈ are trademarks of Dolby Laboratories Licensing Corporation.

CONTROLS AND CONNECTORS

FRONT PANEL



❶ POWER switch

- When power is ON, the time counter and level meters will be illuminated.

❷ EJECT button with LED indicator

- Ejects the cassette (from any mode).
- The indicator lights while the cassette is being ejected.

❸ Cassette loading slot

- Accepts either a compact or full-size S-VHS/VHS cassette according to the type selected with the CASSETTE SELECT button ❻.

❹ LED indicators

CASSETTE SIZE indicators

- Indicate whether the recorder is in the Full or Compact mode. When all three indicators are blinking, the recorder is ready to accept a full-size cassette. When only the centre indicator is blinking, the recorder is ready to accept a compact cassette. Press the CASSETTE SELECT button ❻ to change modes. When a cassette is inserted, the blinking will stop and the corresponding indicator(s) will remain continuously lit.

AUTO OFF indicator

- Lights when the unit malfunctions. All other controls are disabled.

S-VHS indicator

- Lights when an S-VHS or S-VHS-C cassette is inserted with the unit in the S-VHS mode, or when playing back a blank part of the tape.
- Blinks when S-VHS recording is attempted with a VHS cassette.

TBC indicators

(with optional SA-T22E TBC installed)

OPERATE: Lights when the TBC is in operation. A timebase-corrected signal is output.

GENLOCK: Lights when the TBC is in operation and locked to the external reference signal.

SERVO indicators

SERVO LOCK: Lights when the capstan and drum servos are locked to the reference signal.

CTL PULSE: Lights during playback of a tape with no control pulse recorded.

COLOUR FRAME: Lights when the capstan and drum servos are locked to PAL 4-field colour frame.

AUDIO indicators

Hi-Fi: Lights when the Hi-Fi REC circuit is ON (via menu setting) or when playing back Hi-Fi-recorded tapes.

LIMITER: Lights when the built-in audio limiter circuit is set to ON (via menu setting).

NR: Lights when the Dolby B* noise reduction circuit is set to ON (via menu setting).

TC (TIME CODE) indicators

(with optional SA-R22E TC [time code] generator/reader installed)

LTC: Lights green when LTC-recorded tapes are played back with the normal audio-2 track set for LTC use (via menu setting). If LTC is not picked up, the indicator lights orange. This indicator may also light green when normal-audio-recorded tapes are played back.

VITC: Lights when VITC-recorded tapes are played back or when recording a VITC signal.

❺ TRACKING control

- Adjusts tracking. Turn in either direction until the tracking meter deflects all the way to the right.
- Normally leave in the centre click-stop position.

❻ **CASSETTE SELECT button**
- Press to select FULL or COMPACT. The corresponding indicator(s) will light.

❼ **AUD-2/R (VIDEO/TRACKING) level meter**
- Indicates the audio level of the normal audio-2 or Hi-Fi right-channel signal during recording and playback.
- Functions as a video level meter during recording and as a tracking meter during playback when the METER SELECT switch ❾ is set to VIDEO/TRACKING.

❽ **AUD-1/L level meter**
- Indicates the audio level of the normal audio-1 or Hi-Fi left-channel signal during recording and playback.

❾ **METER SELECT switch**
- Switches the AUD-2/R level meter ❼ between audio level and video level indication.

AUD-2/R: Meter functions as the audio-2/Hi-Fi right-channel level meter.

VIDEO/TRACKING: Meter functions as a video level meter in recording, and as a tracking meter in playback.

❿ **Tape direction indicators**
- Indicate the current tape direction.

▷ : Forward
□ : Still
◁ : Reverse

⓫ **JOG/SHUTTLE dials**
- Dual concentric controls. The outer functions as a Shuttle ring, the inner as a Jog dial. The Jog and Shuttle modes can be entered directly from the Play, Still, FF, REW, or Stop modes.

SHUTTLE ring: Search speed can be varied continuously from 1/30 to 32 times normal (up to 14 times normal with C-size cassettes) in forward or reverse. Set to the centre click-stop position to engage the Still mode.

JOG dial: Manual frame-by-frame search in either direction. Tape speed is determined by the speed of dial rotation. Releasing the dial engages the Still mode. Also used in edit point trimming, menu setting and TC/UB presetting.

⓬ **Control panel lock release buttons**
- To tilt the control panel, press these buttons and lift the panel at the same time. The panel can be tilted to 90° and locked at angles of 25°, 50°, and 75°.

⓭ **JOG/SHUTTLE button with JOG/SHTL mode indicators**
- Instantly re-activates the Shuttle mode with search speed determined by the current dial setting.

⓮ **Time counter**
- Shows tape time in hours, minutes, seconds, and frames.
- Displays edit-in and -out points.
- Displays user bits.
- Displays menu settings and warnings.

⓯ **Operation buttons with LED indicators**

PAUSE/STILL button
- Temporarily stops recording when pressed in the Record mode.
- Displays a still picture when pressed in the Play mode.

PLAY button
- Starts playback.
- Re-starts normal playback when pressed in the Still or Search mode.
- Starts recording when pressed together with the REC button.
- Starts audio dubbing when pressed together with the AUD DUB button in the Still mode.
- Re-starts recording when pressed in the Record-Pause mode.

REC button
- Starts recording when pressed together with the PLAY button.
- Outputs EE signals when pressed in the Play mode.
- Displays TC generator data when pressed in the Stop mode with REMOTE select switch ㉕ set to LOCAL. (Released by pressing STOP button.)

AUD DUB button
- Starts audio dubbing when pressed together with the PLAY button.

STAND BY button
- Switches the recorder between the Standby-On and Standby-Off modes while the VCR is in the Stop mode. Standby-On is automatically engaged when the Stop button is pressed.

Standby-On: The tape is loaded and the drum is rotating. The indicator is lit.

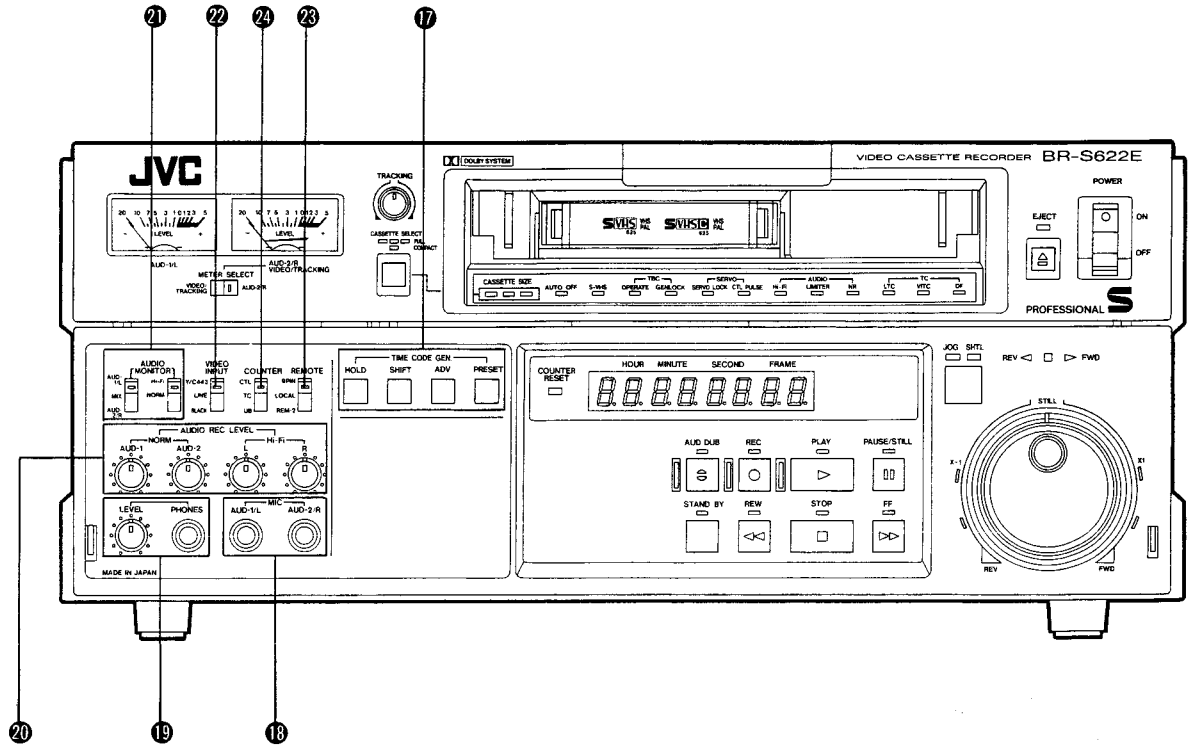
Standby-Off: The tape is loaded but tape tension is reduced and the drum does not rotate. The indicator is not lit.

REW button
- Starts rewind when pressed in any mode.

STOP button
- Engages the Stop mode (Standby-On). The tape stops, but remains in the full-loaded position with the drum rotating.
- The STOP and STAND BY indicators will light.

FF button
- Starts fast forward when pressed in any mode.

⓰ **COUNTER RESET button**
- Resets the CTL counter to zero.
- The CTL counter will be reset even if this button is pressed in the TC mode.



⑰ Time Code setting buttons

To preset time code/user bit data (with optional SA-R22E TC generator/reader installed).

HOLD button

This button is only effective when the SA-R22E's PRESET/REGEN switch is set to PRESET.

- Holds the current counter data; the leftmost digit will blink.

SHIFT button

- Shifts the blinking digit to the right. (You can also shift the blinking digit in either direction by holding down the SHIFT button and turning the JOG dial.)

ADV (ADVANCE) button

- Advances the value of the blinking digit. (You can also change the value in either direction by holding down the ADV button and turning the JOG dial.)

PRESET button

- Transfers the data set with the HOLD, SHIFT, and ADV buttons to the time code generator.
- Automatically cancels the Hold mode.

⑱ MIC jacks (AUD-1/L, AUD-2/R)

- For microphone connection. Input signal switches from line to microphone.

⑲ PHONES jack/LEVEL control

- Connect a set of headphones to monitor sound recording.
- Adjust output level with the LEVEL control.

⑳ Hi-Fi L/R and NORM AUD-1/AUD-2 AUDIO REC LEVEL controls

- To separately adjust recording levels for the Hi-Fi left/right-channel signals and the normal (linear) audio-1/2 signals.
- Optimum level is the point where the corresponding meter's peak deflection is "0".

㉑ AUDIO MONITOR select switches

- To select the audio output for the PHONES jack and the AUDIO MONITOR OUT connector.
- The Hi-Fi/NORM switch also switches the audio level meters between Hi-Fi and NORMAL.

Hi-Fi: To monitor the Hi-Fi audio signals.
NORM: To monitor the normal audio signals.
AUD-1/L: To monitor the normal audio-1 or Hi-Fi left-channel signal.
MIX: To monitor the AUD-1/L and AUD-2/R signals together.
AUD-2/R: To monitor the normal audio-2 signal or Hi-Fi right-channel signal.

㉒ VIDEO INPUT select switch

- To select an input video signal for recording.

Y/C443: To record the signal input to the Y/C443 connector.

LINE: To record the signal input to the VIDEO IN LINE connector.

BLACK: To record the internally-generated black burst signal on a blank tape in preparation for insert editing. If set to this position during menu setting, on-screen information is output from all output connectors, not only the MONITOR OUT connector.

㉓ REMOTE select switch

- To select between remote and local control of the recorder.

9-PIN: For remote control via the rear panel 9-pin connector.

LOCAL: For direct control with the recorder's function buttons.

REM-2: For remote control via the optional 45-pin or RS-232C interface.

㉔ COUNTER select switch

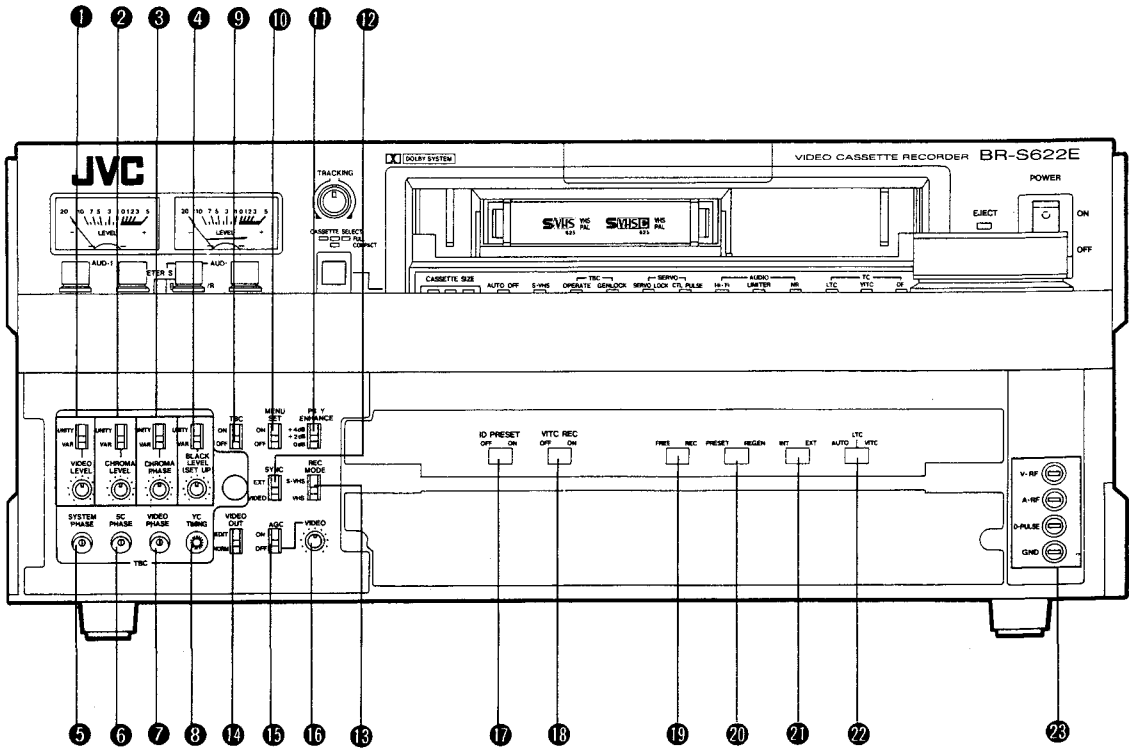
- To select the time counter display mode with the SA-R22E TC generator/reader installed. If this is not installed, CTL signals are displayed regardless of the switch setting.

CTL: CTL signals are displayed on the time counter.

TC: Time code signals are displayed on the time counter.

UB: User bits are displayed on the time counter.

FRONT SUB-PANEL



TBC CONTROLS

The controls in this section function when the optional SA-T22E TBC (time base corrector) is installed.

❶ **VIDEO LEVEL UNITY/VARIABLE select switch/level control**

UNITY: The output signal's video level is the same as the playback signal. Normally set to this position.

VARIABLE: Allows you to adjust the output signal's video level with the VIDEO LEVEL control. Adjustment is possible within ±3 dB.

❷ **CHROMA LEVEL UNITY/VARIABLE select switch/level control**

UNITY: The output signal's chroma level is the same as the playback signal. Normally set to this position.

VARIABLE: Allows you to adjust the output signal's chroma level with the CHROMA LEVEL control. Adjustment is possible within ±3 dB.

❸ **CHROMA PHASE UNITY/VARIABLE select switch/level control**

UNITY: The output signal's chroma phase is the same as the playback signal.

VARIABLE: Allows you to adjust the output signal's chroma phase with the CHROMA PHASE control. Adjustment is possible within ±30°.

❹ **BLACK LEVEL VARIABLE/UNITY select switch/level control**

UNITY: The output signal's setup level is the same as the playback signal.

VARIABLE: Allows you to adjust the output signal's setup level with the BLACK LEVEL (SET UP) control. Adjustment is possible within ±107 mV.

❺ **SYSTEM PHASE control**

- Adjusts the output signal's horizontal phase with respect to that of the reference input signal. Adjustment is possible within a range of ±3 µsec.

❻ **SC PHASE**

- Adjusts the output signal's subcarrier phase with respect to that of the reference input signal. Up to 15 rotations are possible with continuous variation over a range of ±180°.

❼ **VIDEO PHASE control**

- Adjusts the output signal's video phase with respect to the playback signal's H sync. Up to 15 rotations are possible with continuous variation over a range of ±1.5 µsec.

❽ **YC TIMING control**

- Adjusts the output signal's C signal delay time with reference to the Y signal. Adjustable within ±500 nsec.
- Normally set to "8".

⑨ **TBC ON/OFF switch.**
- Set to ON for TBC playback. (During TBC operation, the servo is locked to the reference signal supplied to the EXT REF connector even if the SYNC select switch is set to VIDEO.)
- Set to OFF to bypass TBC.

⑩ **MENU SET ON/OFF switch**
- SET to ON to activate the On-Screen Menu. The counter display will also switch to the Menu Set mode.
- Most basic system setup operations are performed using the Menu.

⑪ **PB Y ENHANCE switch**
- Enhances the luminance signal for a sharper playback picture.

+4 dB: Boosts luminance signal level by 4 dB at 2.5 MHz for maximum picture sharpness.
+2 dB: Boosts luminance signal level by 2 dB at 2.5 MHz for a sharper picture.
0 dB: No effect. The same result is obtained by setting the VIDEO OUT select switch ⑭ to EDIT.

⑫ **SYNC select switch**
EXT: The servo is synchronised with the external reference signal supplied to the EXT REF input.
VIDEO: The servo is synchronised with the input video signal.

⑬ **REC MODE select switch**
S-VHS: To record in the S-VHS mode. (Use S-VHS cassettes only)
VHS: To record in the VHS mode.

⑭ **VIDEO OUT select switch**
EDIT: Set to this position when using this VCR as a feeder or recorder in dubbing.
NORM: Normally set to this position.

⑮ **VIDEO AGC ON/OFF switch**
- Set to ON to activate the built-in VIDEO AGC circuit.
- Set to OFF to adjust the luminance video recording level manually.

⑯ **VIDEO control**
- Use to adjust video recording level, referring to the VIDEO/TRACKING meter. The centre click-stop is the standard position. The VIDEO AGC switch must be OFF to use this control.

TIME CODE GENERATOR/READER SETTING SWITCHES
(With SA-R22E TC generator/reader installed)

⑰ **ID PRESET ON/OFF switch**
ON: To record the ID code specifically preset for each VCR.
OFF: To use the user bits memory for standard procedures in the Preset mode.

⑱ **VITC REC ON/OFF switch**
ON: To record VITC time codes.
OFF: VITC time codes are not recorded.
NOTE:
This switch has no effect on LTC recording (enabled by setting menu item #206 to "01 – LTC").

⑲ **FREE/REC switch**
- This switch is effective only when the PRESET/REGEN switch is set to PRESET and the INT/EXT switch is set to INT.

FREE: The time code runs in real time, regardless of the video recorder's operating mode.
REC: The time code runs only during recording.

⑳ **PRESET/REGEN switch**
PRESET: To use the internal TC generator in the Preset mode (with the INT/EXT switch set to INT), or to use an external TC generator via the TIME CODE IN connector (with the INT/EXT switch set to EXT).
REGEN: To use the internal TC generator in sync with either the playback time codes (with the INT/EXT switch set to INT), or externally input time codes (with the INT/EXT switch set to EXT).

㉑ **INT/EXT switch**
INT: To use the internal TC generator.
EXT: To use an externally-connected LTC/VITC generator.

㉒ **AUTO/LTC/VITC switch**
- To select the TC reader mode. Select the mode according to the type of reference time code with which the internal TC generator is synchronised in the Regen mode.

AUTO: For tapes with matching VITC and LTC data. Counts time codes in VITC at tape speeds lower than normal, and in LTC at speeds higher than normal. Missing sections are interpolated with CTL counts.
LTC: For LTC-only tapes or when editing with LTC data. Counts time codes in CTL at tape speeds lower than normal and higher than 10 times normal, and in LTC at speeds higher than normal. Missing sections are interpolated with CTL counts.
VITC: For VITC-only tapes or when editing with VITC data. Counts time codes in VITC at tape speeds lower than 10 times normal, and in CTL at speeds higher than 10 times normal. Missing sections are interpolated with CTL counts.

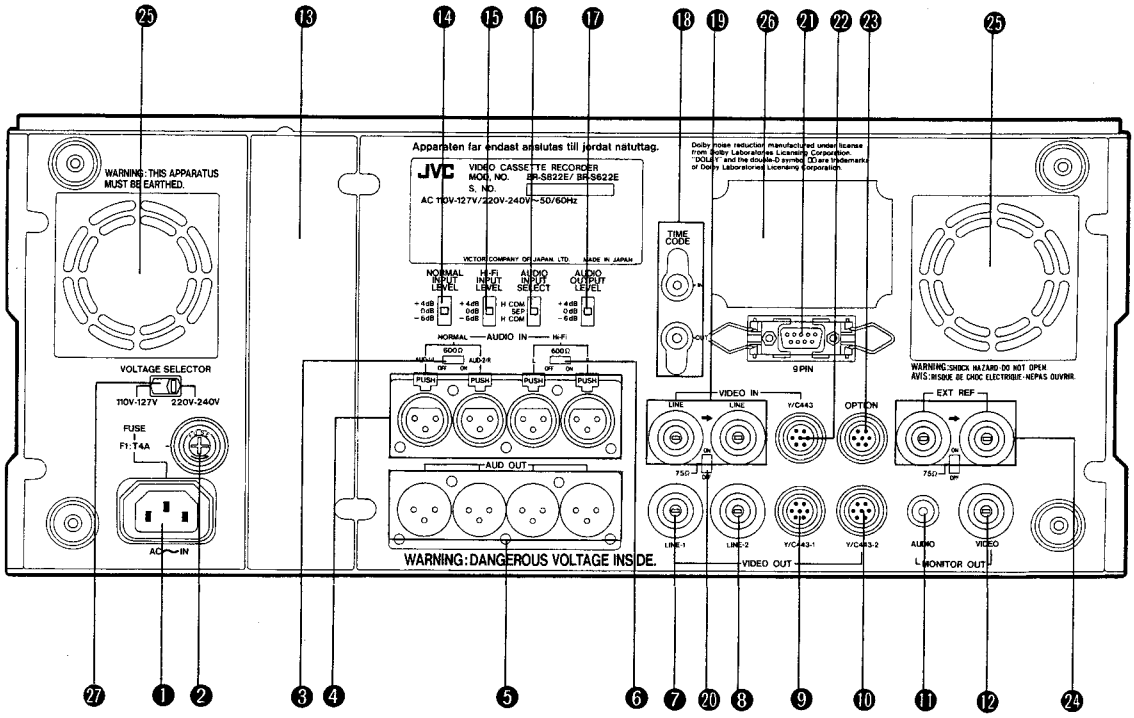
㉓ **Test points**
V-RF test point
- Outputs the video head FM signal during playback.
- Can be used for detection of clogged or worn heads.

A-RF test point
- Outputs the Hi-Fi audio FM signal during playback.
- Can be used for detection of clogged or worn heads.

D-PULSE pin
- Connect to the external trigger terminal of an oscilloscope.

GND
- Connect to the ground terminal of an oscilloscope.

REAR PANEL



❶ AC IN socket
- Connect to 110 – 120 V or 220 – 240 V AC, 50/60 Hz power outlet.

❷ Fuse holder

❸ NORM AUDIO INPUT impedance select switch
ON: 600 ohms.
OFF: 10 k-ohms. Normally set to this position.

❹ Audio input connectors
AUDIO IN NORMAL: Normal audio input connectors for Audio-1 and Audio-2.
AUDIO IN Hi-Fi: Hi-Fi audio input connectors for Left and Right.

❺ Audio output connectors
AUDIO OUT NORMAL: Normal audio output connectors for Audio-1 and Audio-2.
AUDIO OUT Hi-Fi: Hi-Fi audio output connectors for Left and Right.

❻ Hi-Fi AUDIO INPUT impedance select switch
ON: 600 ohms.
OFF: 10 k-ohms. Normally set to this position.

❼, ❽ VIDEO OUT LINE (1, 2) connectors
- The composite video signal is output from these connectors.

❾, ❿ VIDEO OUT Y/C443 (1, 2) connectors
- The Y/C443 signal is output from these connectors.

⓫ AUDIO MONITOR OUT connector
- The audio signal selected with the AUDIO MONITOR select switches is available at this connector.

⓬ VIDEO MONITOR OUT connector
- The composite video output signal is available at this connector. On-screen information is also supplied.

⓭ Expansion slot
- For installation of optional interface (SA-K28E or SA-K27E).

⓮ NORMAL INPUT LEVEL select switch
- To select -6 dB, 0 dB, or +4 dB according to the level of the normal audio input signal. Both channels are switched simultaneously.

⓯ Hi-Fi INPUT LEVEL select switch
- To select -6 dB, 0 dB, or +4 dB according to the level of the Hi-Fi audio input signal. Both channels are switched simultaneously.

⓰ AUDIO INPUT SELECT switch
H COM: "Hi-Fi Combined" recording. Set to this position to record audio signals input to the AUDIO IN Hi-Fi connectors on both the Hi-Fi and Normal audio tracks.
SEP: "Separate" recording. Set to this position to record audio signals input to the AUDIO IN Hi-Fi and NORMAL connectors separately on the Hi-Fi and Normal audio tracks.
N COM: "Normal Combined" recording. Set to this position to record audio signals input to the AUDIO IN NORMAL connectors on both the Hi-Fi and Normal audio tracks.

⑨ TBC ON/OFF switch.

- Set to ON for TBC playback. (During TBC operation, the servo is locked to the reference signal supplied to the EXT REF connector even if the SYNC select switch is set to VIDEO.)
- Set to OFF to bypass TBC.

⑩ MENU SET ON/OFF switch

- SET to ON to activate the On-Screen Menu. The counter display will also switch to the Menu Set mode.
- Most basic system setup operations are performed using the Menu.

⑪ PB Y ENHANCE switch

- Enhances the luminance signal for a sharper playback picture.

+4 dB: Boosts luminance signal level by 4 dB at 2.5 MHz for maximum picture sharpness.
+2 dB: Boosts luminance signal level by 2 dB at 2.5 MHz for a sharper picture.
0 dB: No effect. The same result is obtained by setting the VIDEO OUT select switch ⑭ to EDIT.

⑫ SYNC select switch

EXT: The servo is synchronised with the external reference signal supplied to the EXT REF input.
VIDEO: The servo is synchronised with the input video signal.

⑬ REC MODE select switch

S-VHS: To record in the S-VHS mode. (Use S-VHS cassettes only)
VHS: To record in the VHS mode.

⑭ VIDEO OUT select switch

EDIT: Set to this position when using this VCR as a feeder or recorder in dubbing.
NORM: Normally set to this position.

⑮ VIDEO AGC ON/OFF switch

- Set to ON to activate the built-in VIDEO AGC circuit.
- Set to OFF to adjust the luminance video recording level manually.

⑯ VIDEO control

- Use to adjust video recording level, referring to the VIDEO/TRACKING meter. The centre click-stop is the standard position. The VIDEO AGC switch must be OFF to use this control.

TIME CODE GENERATOR/READER SETTING SWITCHES
(With SA-R22E TC generator/reader installed)

⑰ ID PRESET ON/OFF switch

ON: To record the ID code specifically preset for each VCR.
OFF: To use the user bits memory for standard procedures in the Preset mode.

⑱ VITC REC ON/OFF switch

ON: To record VITC time codes.
OFF: VITC time codes are not recorded.

NOTE:

This switch has no effect on LTC recording (enabled by setting menu item #206 to "01 – LTC").

⑲ FREE/REC switch

- This switch is effective only when the PRESET/REGEN switch is set to PRESET and the INT/EXT switch is set to INT.

FREE: The time code runs in real time, regardless of the video recorder's operating mode.
REC: The time code runs only during recording.

⑳ PRESET/REGEN switch

PRESET: To use the internal TC generator in the Preset mode (with the INT/EXT switch set to INT), or to use an external TC generator via the TIME CODE IN connector (with the INT/EXT switch set to EXT).
REGEN: To use the internal TC generator in sync with either the playback time codes (with the INT/EXT switch set to INT), or externally input time codes (with the INT/EXT switch set to EXT).

㉑ INT/EXT switch

INT: To use the internal TC generator.
EXT: To use an externally-connected LTC/VITC generator.

㉒ AUTO/LTC/VITC switch

- To select the TC reader mode. Select the mode according to the type of reference time code with which the internal TC generator is synchronised in the Regen mode.

AUTO: For tapes with matching VITC and LTC data. Counts time codes in VITC at tape speeds lower than normal, and in LTC at speeds higher than normal. Missing sections are interpolated with CTL counts.
LTC: For LTC-only tapes or when editing with LTC data. Counts time codes in CTL at tape speeds lower than normal and higher than 10 times normal, and in LTC at speeds higher than normal. Missing sections are interpolated with CTL counts.
VITC: For VITC-only tapes or when editing with VITC data. Counts time codes in VITC at tape speeds lower than 10 times normal, and in CTL at speeds higher than 10 times normal. Missing sections are interpolated with CTL counts.

㉓ Test points

V-RF test point

- Outputs the video head FM signal during playback.
- Can be used for detection of clogged or worn heads.

A-RF test point

- Outputs the Hi-Fi audio FM signal during playback.
- Can be used for detection of clogged or worn heads.

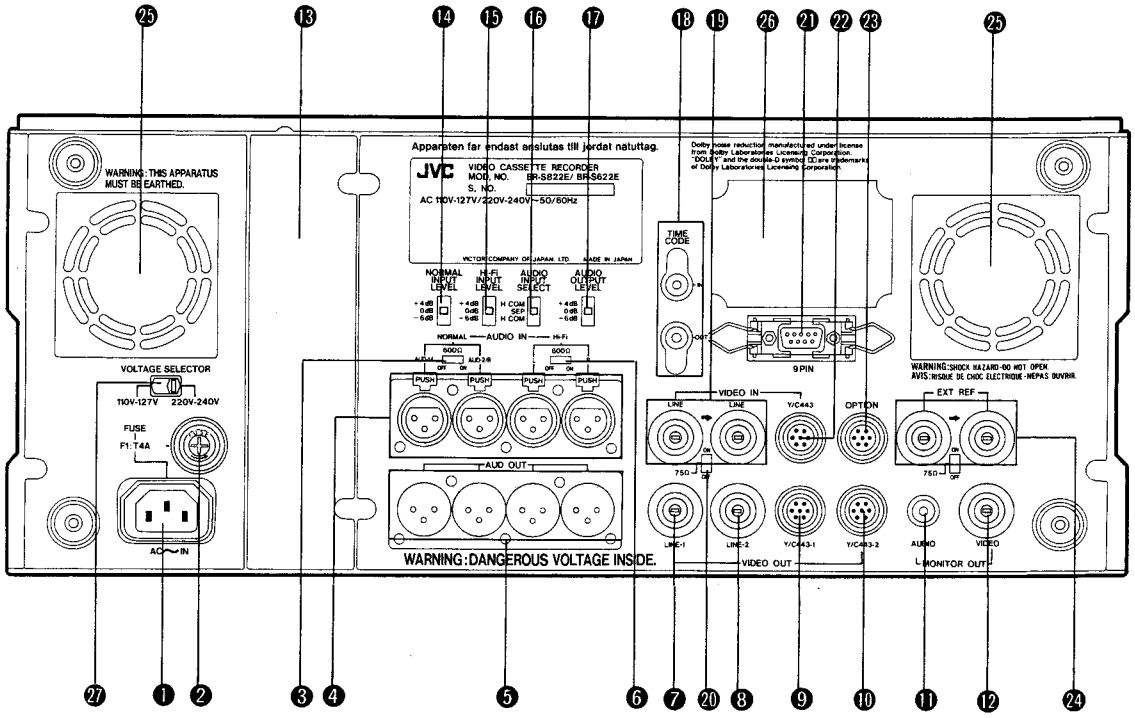
D-PULSE pin

- Connect to the external trigger terminal of an oscilloscope.

GND

- Connect to the ground terminal of an oscilloscope.

REAR PANEL



❶ AC IN socket
- Connect to 110 – 120 V or 220 – 240 V AC, 50/60 Hz power outlet.

❷ Fuse holder

❸ NORM AUDIO INPUT impedance select switch
ON: 600 ohms.
OFF: 10 k-ohms. Normally set to this position.

❹ Audio input connectors
AUDIO IN NORMAL: Normal audio input connectors for Audio-1 and Audio-2.
AUDIO IN Hi-Fi: Hi-Fi audio input connectors for Left and Right.

❺ Audio output connectors
AUDIO OUT NORMAL: Normal audio output connectors for Audio-1 and Audio-2.
AUDIO OUT Hi-Fi: Hi-Fi audio output connectors for Left and Right.

❻ Hi-Fi AUDIO INPUT impedance select switch
ON: 600 ohms.
OFF: 10 k-ohms. Normally set to this position.

❼, ❽ VIDEO OUT LINE (1, 2) connectors
- The composite video signal is output from these connectors.

❾, ❿ VIDEO OUT Y/C443 (1, 2) connectors
- The Y/C443 signal is output from these connectors.

⓫ AUDIO MONITOR OUT connector
- The audio signal selected with the AUDIO MONITOR select switches is available at this connector.

⓬ VIDEO MONITOR OUT connector
- The composite video output signal is available at this connector. On-screen information is also supplied.

⓭ Expansion slot
- For installation of optional interface (SA-K28E or SA-K27E).

⓮ NORMAL INPUT LEVEL select switch
- To select -6 dB, 0 dB, or +4 dB according to the level of the normal audio input signal. Both channels are switched simultaneously.

⓯ Hi-Fi INPUT LEVEL select switch
- To select -6 dB, 0 dB, or +4 dB according to the level of the Hi-Fi audio input signal. Both channels are switched simultaneously.

⓰ AUDIO INPUT SELECT switch
H COM: "Hi-Fi Combined" recording. Set to this position to record audio signals input to the AUDIO IN Hi-Fi connectors on both the Hi-Fi and Normal audio tracks.
SEP: "Separate" recording. Set to this position to record audio signals input to the AUDIO IN Hi-Fi and NORMAL connectors separately on the Hi-Fi and Normal audio tracks.
N COM: "Normal Combined" recording. Set to this position to record audio signals input to the AUDIO IN NORMAL connectors on both the Hi-Fi and Normal audio tracks.

⑰ **AUDIO OUTPUT LEVEL select switch**
- To select -6 dB, 0 dB, or +4 dB according to the input level of connected audio equipment. All four audio channels are switched simultaneously.

⑱ **TIME CODE IN/OUT connectors**

Set menu item #206 to "01 – LTC" to record LTC time codes on the normal audio-2 track.
- Connect a time code generator to the IN connector for external time code recording.
- Connect a time code reader to the OUT connector for external time code reading.

⑲ **VIDEO IN LINE connectors**
- The composite video signal is input to the left connector.
- To output the loop-through signal to another unit, set the 75-ohm terminating switch to OFF.

⑳ **75-Ohm terminating switch**

ON: The loop-through signal is terminated at the BR-S622E.

OFF: The loop-through signal is output to another unit.

㉑ **9-PIN connector**
- Connect to an RS-422 9-pin serial remote control unit or to the RS-422 9-pin connector of a recorder for swap editing.

㉒ **VIDEO IN Y/C443 connector**
- The Y/C443 signal is input to this connector.

㉓ **OPTION connector**
- Delivers the Y/C 686/Y/C 924 signal (with optional SA-E92E Output board installed) to the DUB IN connector of 3/4" U-VCR machines.

㉔ **EXT REF connectors with 75-ohm terminating switch**
- Supply the reference signal (either black burst signal or composite video) to the left connector and set the 75-ohm terminating switch to ON.
- To output a loop-through signal to another unit, set the 75-ohm terminating switch to OFF.

NOTE:
- When using the SA-T22E, do not use a black-and-white signal or sync signal without burst as the reference signal, otherwise the intended synchronisation will not be obtained.

㉕ **Fans**

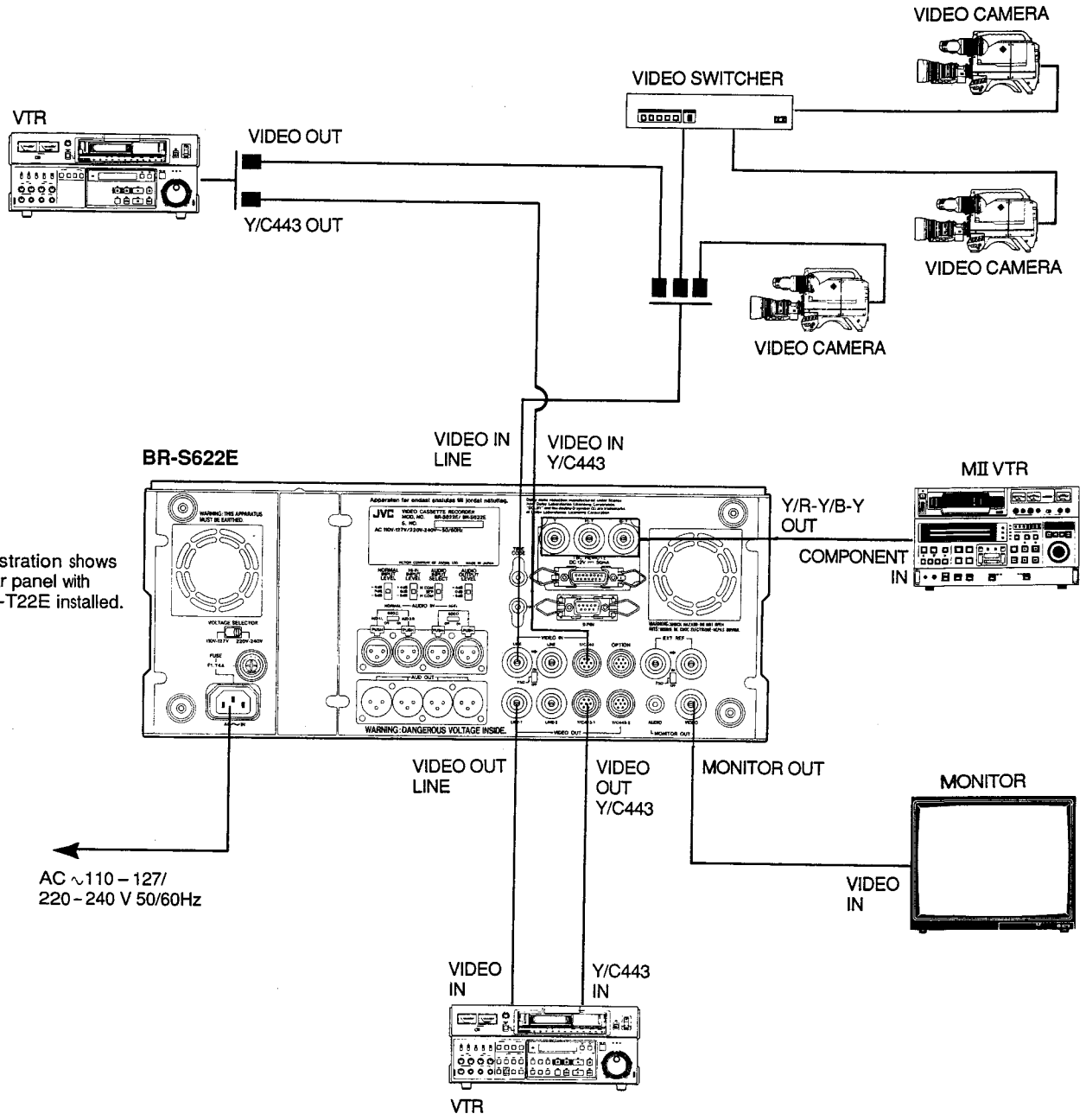
㉖ **Expansion slot**

For installation of COMPONENT OUT connector board when optional SA-T22E TBC is installed.
- Y/R-Y/B-Y output connectors: MII or Betacam component signal is output.
- TBC remote terminal: Connect a 15-pin remote controller for TBC operation.

㉗ **VOLTAGE SELECTOR**
- Select voltage according to your local power supply. (Be sure the POWER is off when setting the voltage.)

CONNECTIONS

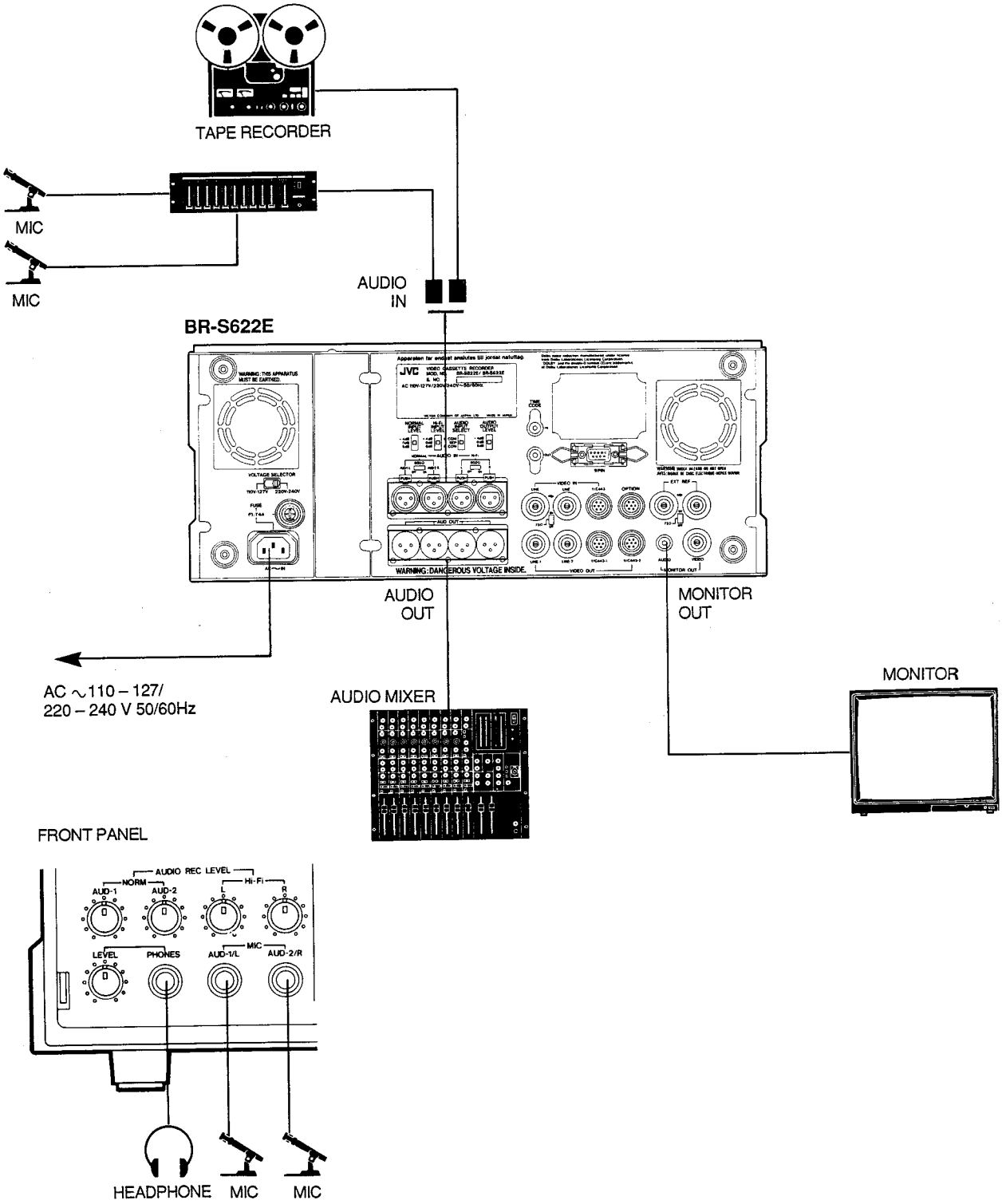
VIDEO EQUIPMENT



NOTES:

- To output the loop-through signal, set the 75-ohm terminating switch to OFF, otherwise set it to ON. (Be sure to terminate the signal at the last of the connected units.)
- On-screen information is output from the VIDEO MONITOR OUT connector only.
- Y/R-Y/B-Y component signals can be output when the optional TBC board SA-T22E is installed. M-II and Betacam component signals are selectable via menu item #104. (☞ p.28)

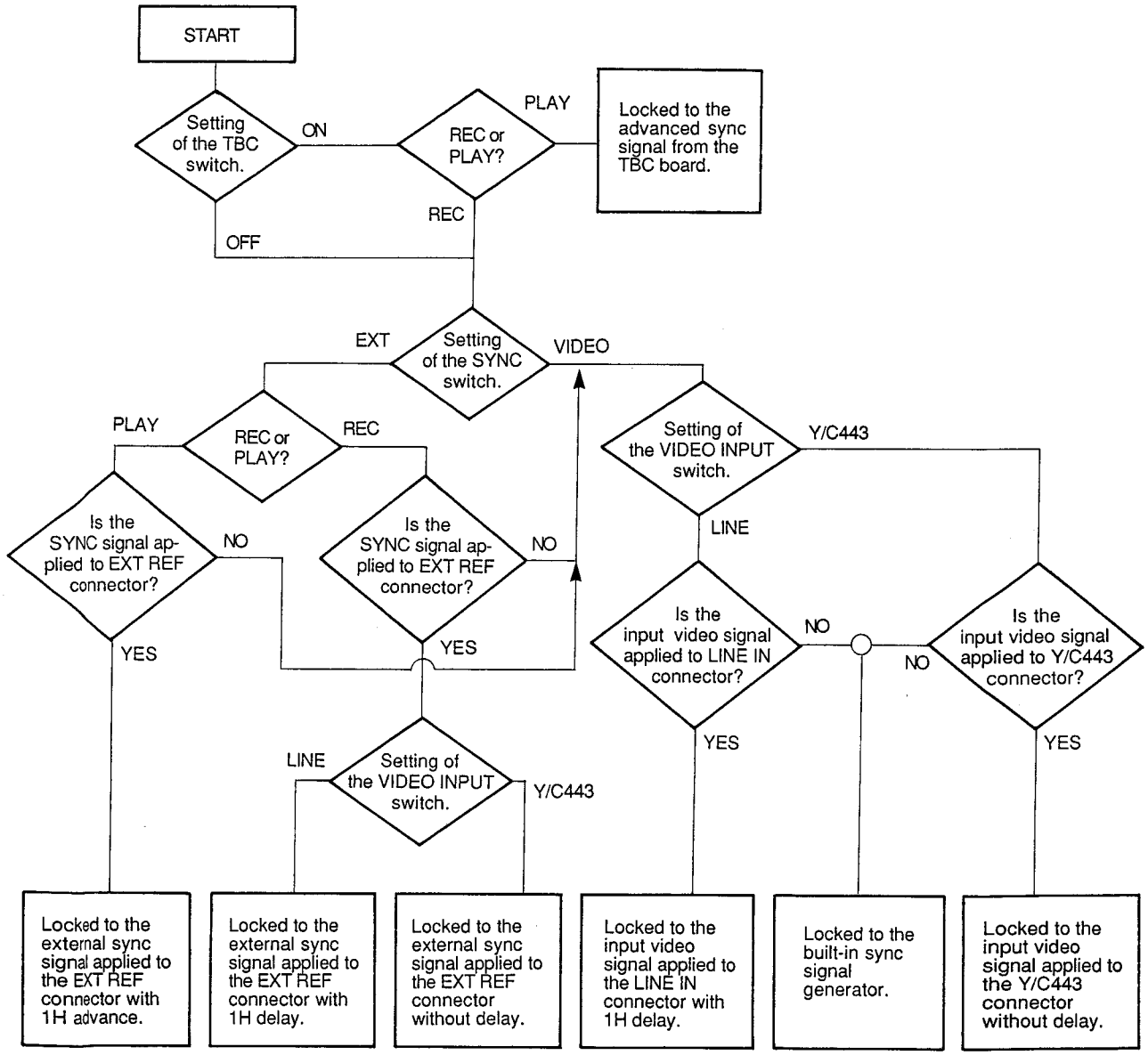
AUDIO EQUIPMENT



NOTES:

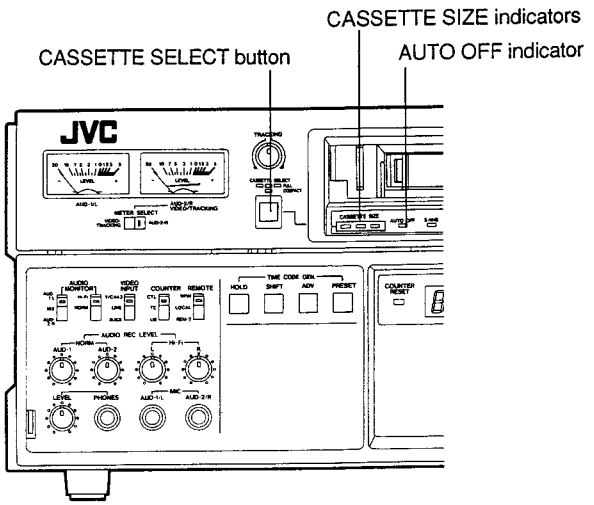
- The MIC jack has priority over the rear panel AUDIO IN connectors. When a microphone is connected, the input signal is automatically shifted from AUDIO IN to MIC.

REFERENCE SYNC SIGNALS FOR RECORDING AND PLAYBACK

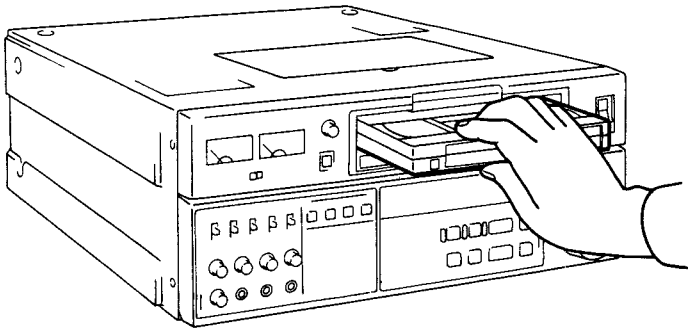

START
Setting of the TBC switch.
ON
REC or PLAY?
PLAY
Locked to the advanced sync signal from the TBC board.
REC
OFF
EXT
Setting of the SYNC switch.
VIDEO
PLAY
REC or PLAY?
REC
Is the SYNC signal applied to EXT REF connector?
NO
YES
Is the SYNC signal applied to EXT REF connector?
NO
YES
Setting of the VIDEO INPUT switch.
Y/C443
LINE
Is the input video signal applied to LINE IN connector?
NO
YES
NO
Is the input video signal applied to Y/C443 connector?
YES
LINE
Setting of the VIDEO INPUT switch.
Y/C443
Locked to the external sync signal applied to the EXT REF connector with 1H advance.
Locked to the external sync signal applied to the EXT REF connector with 1H delay.
Locked to the external sync signal applied to the EXT REF connector without delay.
Locked to the input video signal applied to the LINE IN connector with 1H delay.
Locked to the built-in sync signal generator.
Locked to the input video signal applied to the Y/C443 connector without delay.

LOADING AND UNLOADING VIDEO CASSETTES

LOADING



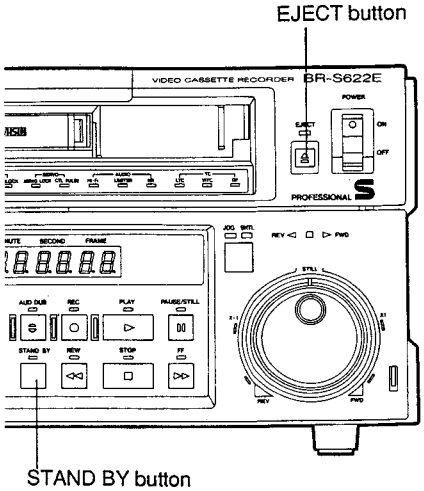
1. Switch on the power.
2. Check the AUTO OFF indicator.
   - If this indicator lights, some abnormal condition such as condensation has occurred. All functions except Eject are disabled.
3. Check the CASSETTE SIZE indicators.
   - If you're loading a full-size cassette, be sure that all three indicators are blinking.
   - If you're loading a compact cassette, be sure that only the centre indicator is blinking.
   - Press the CASSETTE SELECT button to change modes.
4. Insert a cassette with its label side facing you.
   - The cassette is automatically retracted and loaded.
   - The VCR enters the Stop/Standby-On mode. The STOP and STAND BY indicators will light. In this mode, the tape is fully loaded and the head drum is rotating. The CASSETTE SIZE indicator(s) will stop blinking but remain illuminated.
   - Output signal changes from EE to playback.



NOTES:
- Be sure that the CASSETTE SIZE indicator(s) is blinking when inserting a cassette.

5. To cancel the Standby-On mode, press the STAND BY button.
   - The head drum will stop rotating, but the tape remains in the full-loaded position. The STAND BY indicator will go out.
   - As soon as you engage another mode (Play, Rewind, Fast Forward, Record, etc.), the STAND BY indicator will come on again.

UNLOADING



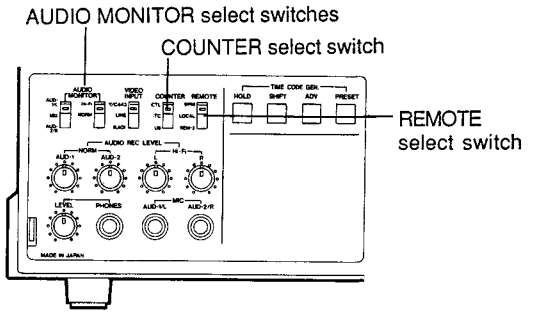
1. Press EJECT.
   - The cassette is ejected automatically.
   - You can press the EJECT button in any mode.
   - Output signal changes from playback to EE.
2. Remove the cassette.

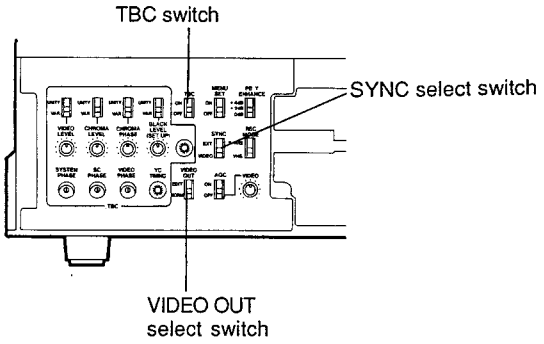
WARNING
- Do not insert fingers or foreign objects into the cassette loading slot as this may result in personal injury or damage to the mechanism.
- Do not try to remove the cassette once automatic loading has started.

PLAYBACK

PREPARATION

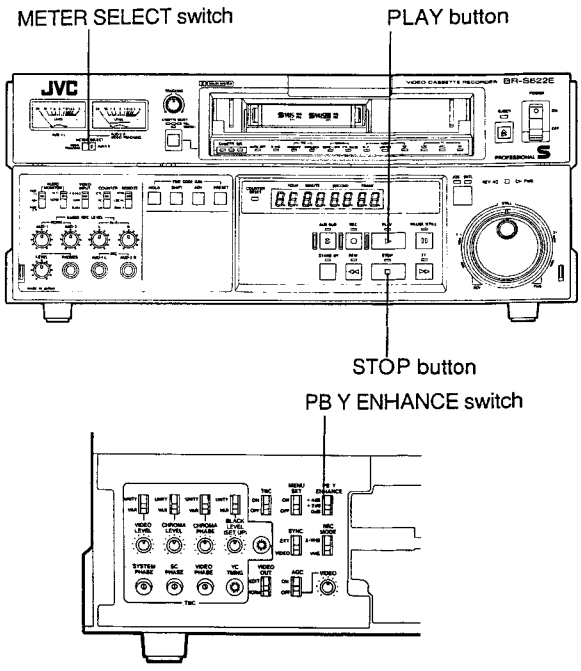
1. Set the SYNC select switch as required. (☞ p.10)
2. Set the AUDIO MONITOR select switches as required. (☞ p.8)
3. Set the COUNTER select switch as required. (☞ p.8)
4. Set the VIDEO OUT select switch as required.
   NOR: for normal playback.
   EDIT: when using the VCR as an edit feeder.
5. Set the REMOTE select switch as required. (☞ p.8)
6. Set the TBC switch to ON if you are using the SA-T22E or an external TBC.





PROCEDURE

1. Press the PLAY button.
   - Normal playback starts.
2. Check the tracking level.
   - Set the METER SELECT switch to VIDEO/TRACKING.
   - Adjust the TRACKING control until the tracking meter (AUD-2/R) deflects fully to the right.
   - Check the monitor screen to be sure that the picture is not blurred or marred by noise bars.
3. Set the PB Y ENHANCE switch as required.
   - If the VIDEO OUT select switch is set to EDIT, this switch has no effect.
4. Press the STOP button to stop playback.



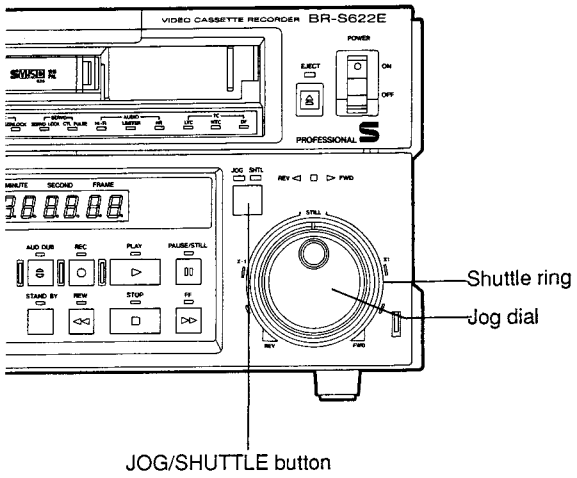
NOTES:

- LP recordings cannot be played back.
- To monitor the input signal during playback, press the REC button while in the Play mode.
- Do not press the REC and PLAY buttons simultaneously, otherwise the VCR will enter the Record mode.
- The VCR is preset to enter the Stop mode at tape end. If you want the VCR to automatically rewind when the end of the tape is reached, set menu item #312 to "01 – REW". (☞ p.29)

SHUTTLE SEARCH

The Shuttle Search mode is automatically activated when you turn the outer Shuttle ring in the Play, Still, FF, REW, or Stop mode. Turn the ring to adjust tape speed and direction as required.

- The STILL position (centre click-stop) provides a still picture.
- Turn the dial clockwise to search in the forward direction; counterclockwise to search in the reverse direction.
- The X1 click-stop provides normal speed search in the forward direction. X–1 provides normal speed search in the reverse direction.
- Another click-stop is located between X1 and the maximum position. This provides search at 4 times normal speed.
- When the dial is turned fully clockwise or counterclockwise, maximum search speed (about 32 times normal with full-size cassettes and 10 times normal with C-size cassettes) is provided.
- To change modes, press the button corresponding to the desired mode (PLAY, STOP , REW, FF)
- For immediate reactivation of the Shuttle mode at the search speed corresponding to the current dial setting, press the JOG/SHUTTLE button.



JOG SEARCH

Turn the inner Jog dial to adjust tape speed and direction as required.

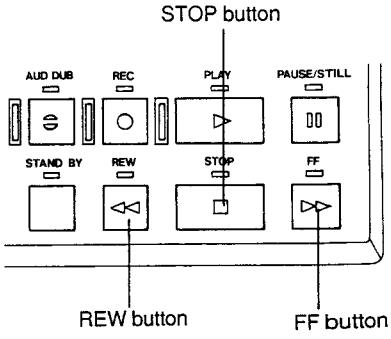
- The VCR enters the Jog mode and the JOG indicator lights.
- Tape speed varies in relation to how quickly you turn the dial.
- When the dial is released, the VCR enters the Still mode.

NOTES:

- Leaving the VCR in the Still mode for too long may damage the tape. To prevent this, the tape is automatically shifted to another video track when the Still mode continues for more than 5 minutes. (selectable with menu item #307, ☞ p.29.)

REWIND AND FAST-FORWARD

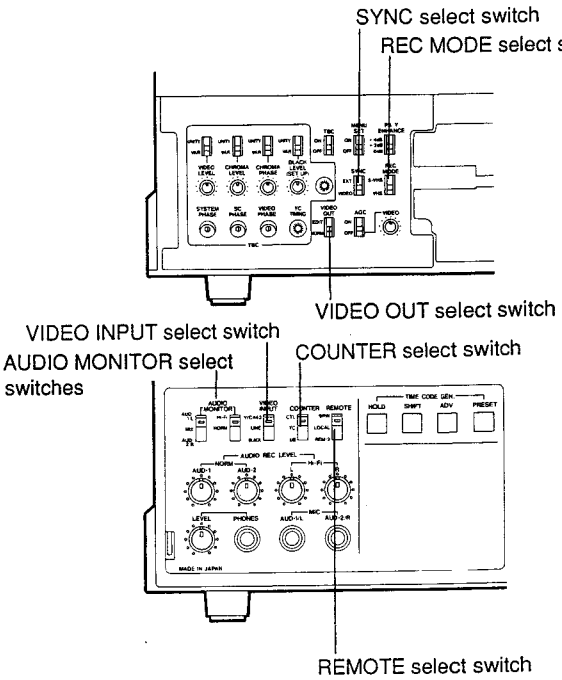
1. To rewind the tape at high speed, press REW in any mode.
2. To advance the tape at high speed, press FF in any mode.
3. Press STOP to stop rewind or fast-forward.



RECORDING

PREPARATION

1. Set the REC MODE select switch.
   VHS: To record in the VHS SP mode.
   S-VHS: To record in the S-VHS SP mode. (Use S-VHS cassette only)
2. Set the SYNC select switch as required. (☞ p.10)
3. Set the COUNTER select switch as required. (☞ p.8)
4. Set the VIDEO INPUT select switch as required. (☞ p.8)
5. Set the REMOTE select switch as required. (☞ p.8)
6. Set the AUDIO MONITOR select switches as required. (☞ p.8)
7. Set the VIDEO OUT select switch as required.
   NOR: For normal recording.
   EDIT: For recording with the aparture control circuit OFF.
8. Set menu item #000 to "01 — 4 FIELD". (☞ p.27)



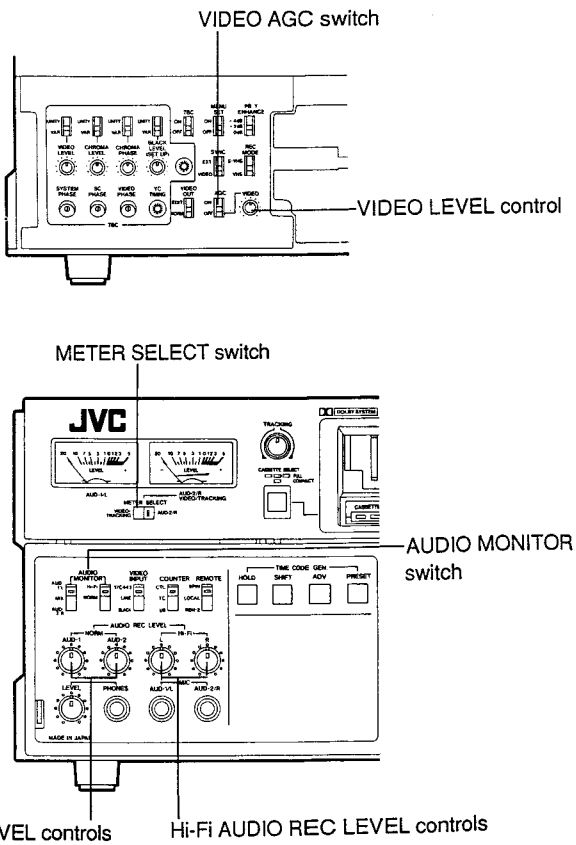
RECORDING LEVEL ADJUSTMENTS

Video Level Adjustment

- For automatic level control, set the VIDEO AGC switch to ON.
- For manual level control, set the VIDEO AGC switch to OFF. Set the METER SELECT switch to VIDEO/TRACKING and turn the VIDEO control until the VIDEO/TRACKING meter deflects to "0" with EBU-standard colour bar input.

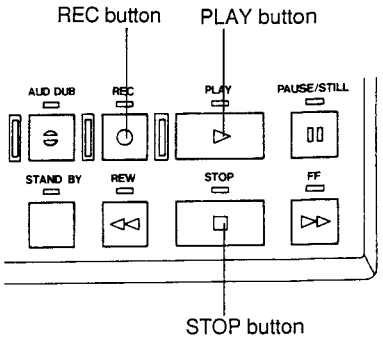
Audio Level Adjustment

- Set the rear panel AUDIO INPUT SELECT switch as required.
- Set the rear panel AUDIO INPUT LEVEL select switches to match the input signal level.
- Set the METER SELECT switch to AUD-2/R.
- For Hi-Fi audio recording level adjustment, set the AUDIO MONITOR switch to Hi-Fi and adjust the Hi-Fi AUDIO REC LEVEL L/R controls until the meters deflect to "0" at peak signal level.
- For normal audio recording level adjustment, set the AUDIO MONITOR switch to NORM and adjust the NORM AUDIO REC LEVEL AUD-1/AUD-2 controls until the meters deflect to "0" at peak signal level.



PROCEDURE

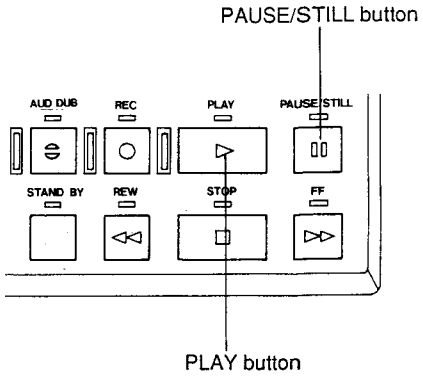
1. Press the REC and PLAY buttons simultaneously to start recording.
- Both the REC and PLAY LEDs will light.
- To temporarily stop recording, press PAUSE/STILL .
- To resume recording, press PLAY.
2. Press the STOP button to stop recording.



RECORD-PAUSE & ASSEMBLE EDITING

The BR-S622E is equipped with an AEF function which automatically backspaces the tape about 3 seconds whenever the Record-Pause mode is engaged. In combination with the rotary erase head, this assures clean, smooth editing transitions.

1. Press the PAUSE/STILL button during recording. Recording will stop but the REC indicator will remain lit.
   - The tape automatically rewinds about 3 seconds of programme time and stops in the Record-Pause mode. Both the REC and PAUSE/STILL LEDs will light.
2. Press the PLAY button to restart recording.
   - The recorder will play back the tape for 3 seconds, then switch automatically to the Record mode at the point where the PAUSE/STILL button was originally pressed.
   - During the 3-second playback prior to re-engagement of the Record mode, the picture seen on the screen is not the playback picture, but the input signal.

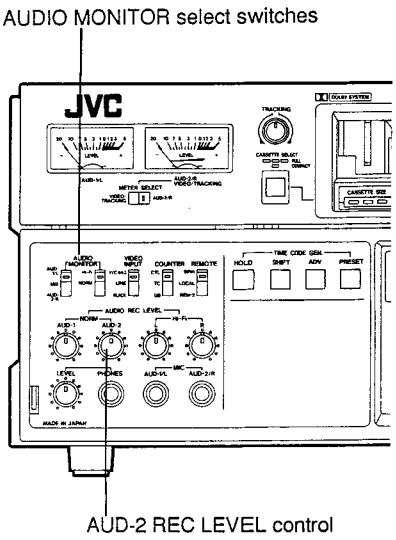


AUDIO DUBBING

To simplify insertion of an additional or new soundtrack (such as narration or music) on a previously-recorded tape, the BR-S622E is equipped with an audio dubbing function. Microphone or other external audio input can be recorded directly on the normal audio-2 track.

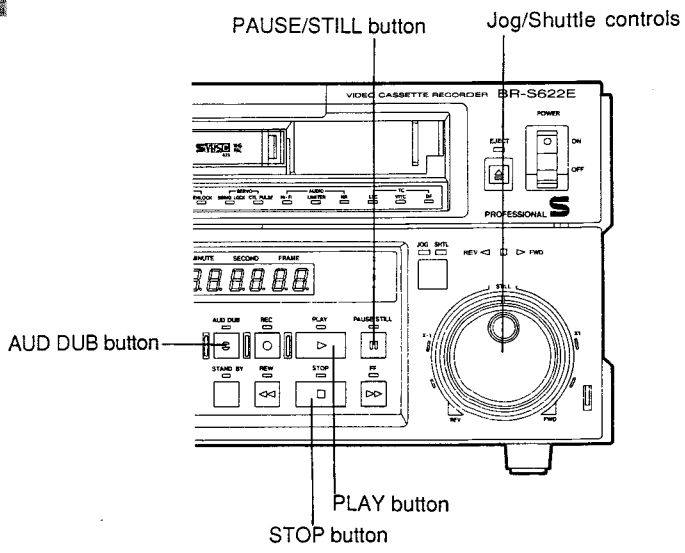
PREPARATION

- Connect a microphone to the AUD-2/R MIC connector or connect an audio source to the rear panel NORMAL AUDIO IN AUD-2/R connector.
- Load a cassette.
- Set the AUDIO MONITOR select switches to NORM and MIX or AUD-2/R.
- Adjust the audio recording level as required with the AUD-2 recording level control.
- If menu item #206 is set to "01 – LTC", LTC can be inserted.



PROCEDURE

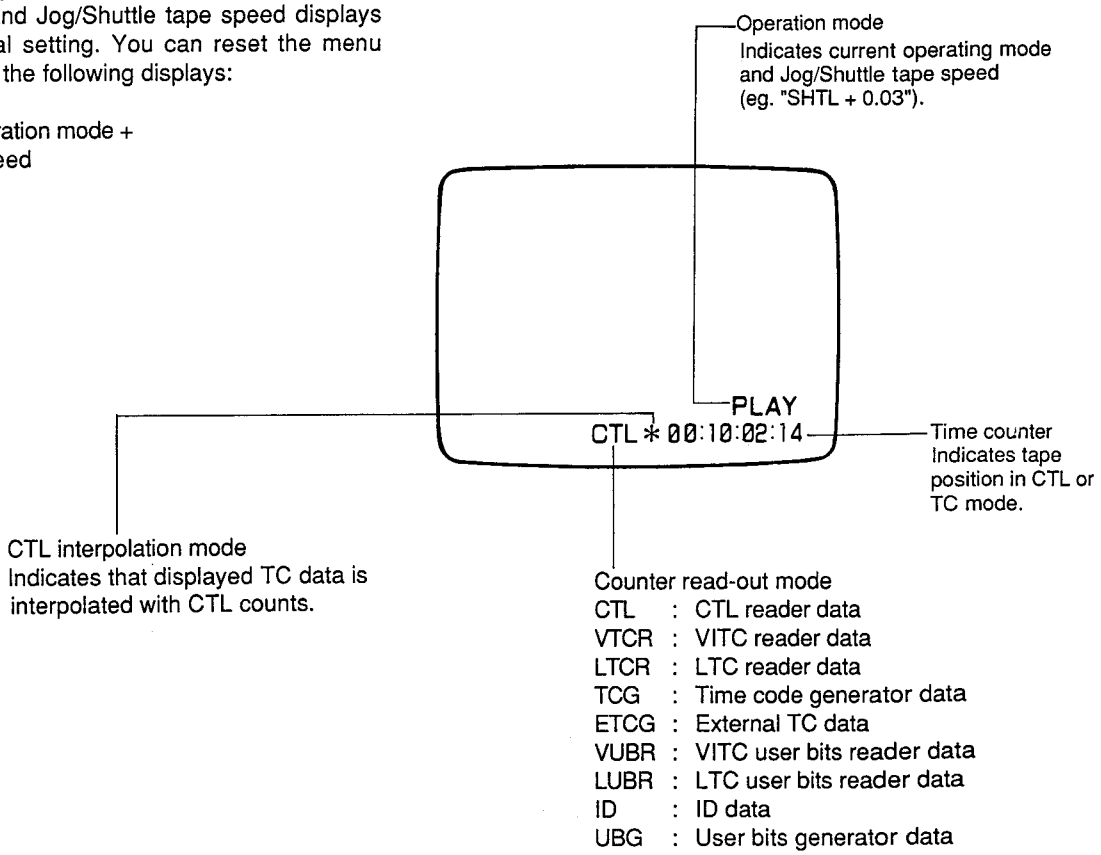
1. Search for the audio dubbing IN point.
   - Use the Jog/Shuttle controls to locate the IN point.
2. Engage the Still mode at the IN point.
3. Press AUD DUB and PLAY together to start audio dubbing.
   - The AUD DUB and PLAY indicators will light.
4. Press PAUSE/STILL to temporarily stop audio dubbing.
5. Press PLAY to re-start audio dubbing.
6. Press STOP to end audio dubbing.



ON-SCREEN DISPLAYS

You can choose the display mode via menu setting. The time counter, operation mode, and Jog/Shuttle tape speed displays are available with the initial setting. You can reset the menu parameters to obtain any of the following displays:

- Time Counter
- Time Counter + Operation mode + Jog/Shuttle tape speed

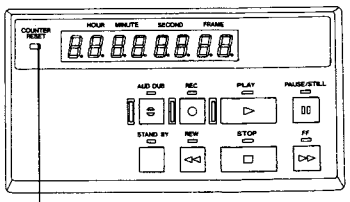

Operation mode
Indicates current operating mode and Jog/Shuttle tape speed (eg. "SHTL + 0.03").
PLAY
CTL * 00:10:02:14
Time counter
Indicates tape position in CTL or TC mode.
CTL interpolation mode
Indicates that displayed TC data is interpolated with CTL counts.
Counter read-out mode
CTL : CTL reader data
VTCR : VITC reader data
LTCR : LTC reader data
TCG : Time code generator data
ETCG : External TC data
VUBR : VITC user bits reader data
LUBR : LTC user bits reader data
ID : ID data
UBG : User bits generator data

COUNTER DISPLAY

The BR-S622E's time counter shows tape time in hours, minutes, seconds, and frames in both CTL and TC modes. It also displays user bits, menu settings, and warning codes.

Resetting the counter

In the CTL mode, you can press the COUNTER RESET button to reset the time counter to zero.



COUNTER RESET button

NOTES:

- Stored edit points will be cleared if the COUNTER RESET button is pressed.
- For details on menu setting and warning code displays, ☞ p. 26 and p. 35.

TIME CODE/USER BITS

TIME CODE

This system simplifies location and specification of video frames by marking each frame with an 8-digit code number or "address". Essential for accurate editing, these "addresses" represent absolute tape positions and are displayed in hours, minutes, seconds, and frames, allowing you to specify exactly where edits are to start and stop by entering the IN and OUT time code values.
There are two different time code systems: LTC and VITC.

LTC (Longitudinal Time Code)
Time code addresses are recorded on a dedicated linear track by a fixed head. With the BR-S622E, the audio-2 track can be switched to LTC recording.

VITC (Vertical Interval Time Code)
The VITC is recorded during the video signal's vertical blanking period by a rotary head. Besides leaving the audio-2 channel free for editing, this permits accurate readout during still and search at speeds less than normal.

The time code used for the BR-S622E and the SA-R22E time code reader/generator conforms to the EBU standard.

USER BIT

"User bits" is a portion of the time code signal allocated to the user. It can be used to record the operator number or reel numbers.

ID CODE

User bits can also be used to identify the operating VCR. You can preset the VCR's ID code and record it on tape by setting the ID preset ON/OFF switch (on the TC board) to ON. Once the ID code has been preset, it need not be re-set unless you want to change it.

TIME CODE EDITING

Accurate editing in reference to time code data is possible with editing suites controlled via 9-pin serial interface.

- Install the SA-R22E TC board in the BR-S622E.
- Use another VCR with TC reading capability as the recorder, eg. the BR-S822E with SA-R22E TC board installed.
- For swap editing, connect the recorder and player via 9PIN connectors. Set the COUNTER switch to TC.
- For externally controlled editing, use a 9-pin serial editing controller. Switching between TC and CTL modes can be done with the controller.
- Time code editing is also possible with RS-232C interface using the optional SA-K27E.

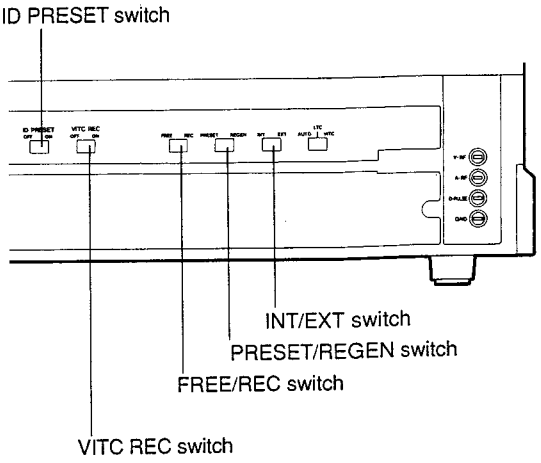
NOTES:
When editing with VITC using SA-T22E's TBC, set menu item #601 V BLANK MASK to "00 — OFF". (☞ p.32)

TIME CODE/USER BITS RECORDING/PLAYBACK

PRESET RECORDING

This technique lets you record time code data starting from a newly specified value.

1. Put the VCR in the Stop mode.
2. Set the INT/EXT switch to INT.
3. Set the PRESET/REGEN switch to PRESET.
4. Set the FREE/REC switch to the desired position.
   FREE: Time code runs in real time, regardless of VCR's operating mode.
   REC: Time code runs only during VCR recording.
5. Set the VITC REC switch to the desired position.
   ON: Records VITC on the tape.
   OFF: VITC is not recorded.
   - Do not record the VITC signal on lines 7, 8, or 11. Line 11 is used for AUTO EQ. (S-VHS only)
   - To record LTC, set menu item #206 to "01 — LTC" (☞ p. 28).
6. Set initial time code/user bit values.



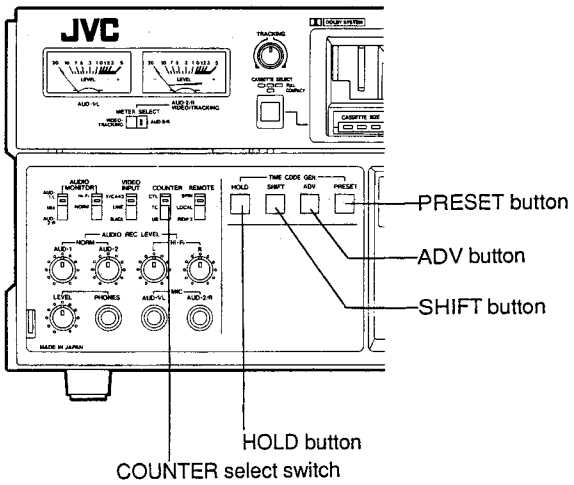
NOTES:

- The time code/user bits signal input to the rear panel TIME CODE IN connector can be recorded in its original form by setting the PRESET/REGEN switch to PRESET and the INT/EXT switch to EXT.

Setting Initial Time Code/User Bit Values

- Engage the EE mode by pressing the REC button in the Stop mode. TC generator data is displayed on the counter.

1. Set the COUNTER select switch to TC or UB.
   TC: To set the time code.
   UB: To set the user bits. (When using user bits for ID, also set the ID PRESET switch to ON.)
2. Press the HOLD button.
   - The current counter data is held; the leftmost digit will blink in the Preset mode.
3. Press the ADV (ADVANCE) button.
   - This advances the value of the blinking digit. Set to the desired value. (You can also change the value in either direction by holding down the ADV button and turning the JOG dial.)
4. Press SHIFT.
   - The blinking digit shifts to the right. (You can also shift the blinking digit in either direction by holding down the SHIFT button and turning the JOG dial.)
5. Repeat steps 3 & 4 until all data is set.
6. Press the PRESET button.
   - The preset data will be transferred to the time code generator.
   - In the Free Run mode, time code starts running.
7. Press the STOP button to finish setting.
8. Proceed with recording. (☞ p.19)



NOTES:

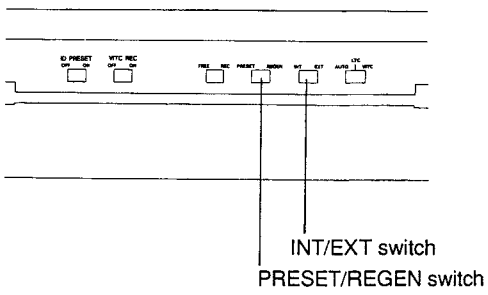
- If the COUNTER RESET button is pressed during TC data setting, the counter is reset to "00:00:00:00".
- In user bits setting, all 8 digits can be changed from "0" to "F".
- TC data is cleared when the VCR's power is turned off.

REGENERATED RECORDING

Internal Regenerate Mode

This technique lets you record time code data on a new recording in sync with the playback time code data on the preceding recording. In automatic editing, jam-sync is also available.

1. Set the INT/EXT switch to INT.
2. Set the PRESET/REGEN switch to REGEN.

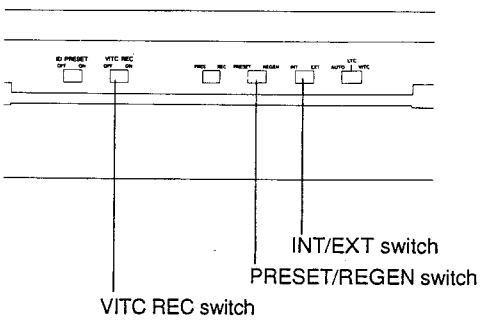


External Regenerate Mode

This technique lets you record time code data regenerated in sync with externally input time codes.

1. Connect an external LTC time code generator or the TIME CODE OUT connector of another VCR to the TIME CODE IN connector.
2. Set the COUNTER switch to TC.
3. Set the INT/EXT switch to EXT.
4. Set the PRESET/REGEN switch to REGEN.
5. Set the VITC REC switch as required.
6. Press the REC button in the Stop mode.

- The REC indicator lights and the counter shows time code running in sync with the external TC generator.

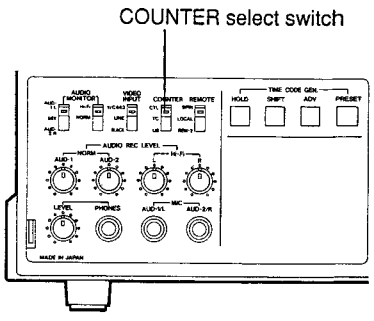


NOTES:

- When using an external VITC time code generator, menu item #409 must be re-set to "01 — VITC" (☞ p.31) and the VIDEO IN connector must be used instead of the TIME CODE IN connector.
- The EE picture does not include the VITC signal.

PLAYBACK

- When tapes with time code are played back, the rear panel TIME CODE OUT connector outputs the playback time code signal in its original form. The counter shows time code being read by the internal TC reader (with COUNTER switch set to TC).
- If you need regenerated time code from the TIME CODE OUT connector, re-set menu item #405 to "01 – TCG" (☞ p.31), and set the front panel INT/EXT switch to INT and the PRESET/REGEN switch to REGEN. To dub time code, or to supply the playback time code signal to another VCR, use this mode for more assured time code recording.



NOTES:

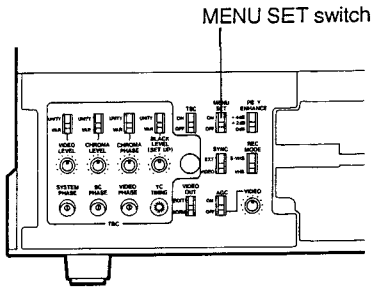
- All time code data is cleared when power is switched off.
- For more options, refer to TIME CODE menu settings. (☞ p.31)

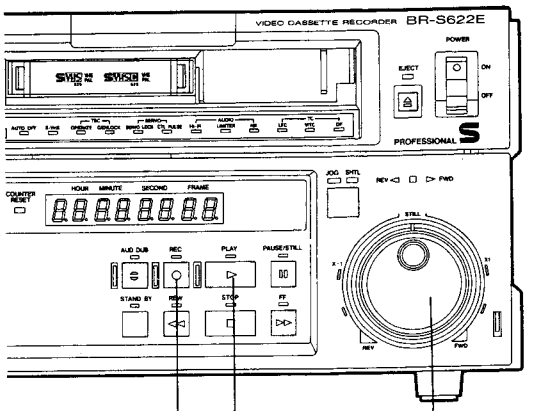
SETUP MENU

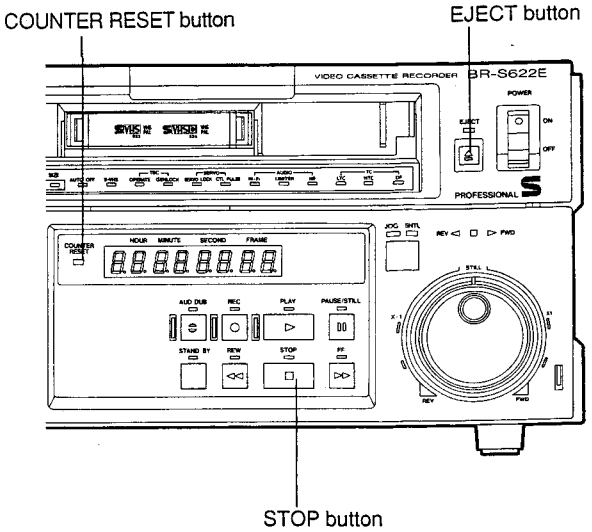
OPERATION

By engaging the Menu Set mode, you can cancel any preset functions that you don't require or change certain parameters as desired.

1. Set the MENU SET switch to ON.
   - The set-up menu appears on the monitor screen. The counter display will also switch to the Menu Set mode.
   - The Menu number (000) for the first item will blink.
2. Turn the Jog dial to locate the item you want to set.
   - Turning the dial clockwise increments the setting items (000→001→100, etc.); turning it counterclockwise, decrements the setting items.
3. When you locate an item you wish to change, press PLAY.
4. Press PLAY again to change the setting.
5. To continue setting, repeat steps 2 to 4.
6. Press REC to store the new settings.
7. To exit the menu, set the MENU SET switch to OFF.





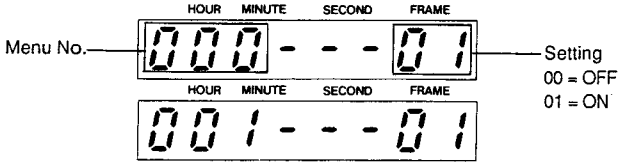


NOTE:

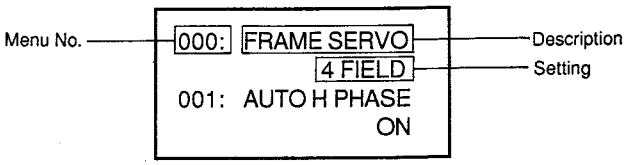
- All menu items can be automatically restored to their initial settings. To do this, first switch off the VCR's power. Then, while pressing COUNTER RESET and EJECT simultaneously, switch on the power. All menu items will have been restored to their initial settings.
- Some of the menu items cannot be set during the VCR is in the Record mode. We recommend that menu setting be done in the Stop mode.

MENU SETTINGS

Counter Display



On-Screen Display



Blinking: Item ready to be set

NOTE:
For items with more setting variations, 02, 03 ... are displayed.
In such cases, 00/01 does not mean OFF/ON.

(Initial settings are in brackets.)

Menu No.		On-Screen Description	Settings		Explanation
			Counter	On-Screen	
SERVO	000	FRAME SERVO	00	OFF	OFF: To defeat Frame Servo. When random-interlaced or low-S/N video signals are used, set to OFF.
			[01]	[4 FIELD]	4 FIELD: To use Colour Frame Servo when editing in colour frame servo mode.
			02	2 FIELD	2 FIELD: To use Frame Servo.
	001	AUTO H PHASE	00	OFF	OFF: To defeat Auto H-Phase Lock. Set to OFF for animation or CG recording.
			[01]	[ON]	ON: To use Auto H-Phase Lock. Normally set to ON.
VIDEO	100	SWITCHING POINT *1	[00]	[REC6.5H, PB4.5H]	Selects head switching point. REC6.5H, PB4.5H: To position head switching point 6.5H ahead of V sync in recording, and to shift it 2H in playback (1H lower than normal). Normally use this setting.
			01	REC6.5H, PB5.5H	REC6.5H, PB5.5H: To position head switching point 6.5H ahead of V sync in recording, and to shift it 1H in playback.
			02	REC2.25H, PB1.25H	REC2.25H, PB1.25H: To position head switching point 2.25H ahead of V sync in recording, and to shift it 1H in playback. Use this setting when you want a lower switching point for closed-circuit systems.
	101	S-VHS REC. EQ.			Selects video frequency response according to the characteristics of the tape used.
			00	TAPE TYPE-1	TAPE TYPE-1: Do not use this setting.
			[01]	[TAPE TYPE-2]	TAPE TYPE-2: Professional-S tape or other double-coated tapes.
			02	TAPE TYPE-3	TAPE TYPE-3: S-VHS master tape.
			03	TAPE TYPE-4	TAPE TYPE-4: Do not use this setting.
	102	U-VCR Y/C MODE			Selects the mode of the signal output via rear panel OPTION (Y-686/924) connector. (Effective with SA-E92E board)
			[00]	[CONV.]	CONV.: To output Y-686/924 dubbing signal to conventional 3/4" U-VCR machines.
			01	HB/SP	HB/SP: To output Y-686/924 dubbing signal to 3/4" U-VCR SP or Hi-Band machines.
	103	WIDE ASPECT ID REC.			Selects recording in wide aspect format (16:9 aspect ratio) or normal format (4:3 aspect ratio).
			[00]	[AUTO]	AUTO: Automatically detects wide aspect ID of input signal (Y/C input only) and records in wide aspect format.
			01	WIDE	WIDE: Records in wide aspect format regardless of the format of input signal. When recording wide-aspect pictures via composite input, use this setting.
			02	NORM.	NORM.: Records in normal aspect format regardless of the format of input signal.

Menu No.		On-Screen Description	Settings		Explanation
			Counter	On-Screen	
VIDEO	104	COMPONENT OUT LEVEL	[00] 01	[LOW] HIGH	Selects the level of component signals output via rear panel Y/R-Y/B-Y connectors. (Effective with SA-T22E) LOW: To output component signals to MII machines. HIGH: To output component signals to Betacam machines.
AUDIO	200	Hi-Fi AUDIO REC.	00 [01]	OFF [ON]	OFF: To defeat Hi-Fi audio recording. ON: To record Hi-Fi audio.
	201	NORM. AUDIO DOLBY NR	00 [01]	OFF [ON]	OFF: To defeat Dolby NR circuit for normal audio. ON: To activate Dolby NR circuit for normal audio.
	202	AUDIO LIMITER	00 [01]	OFF [ON]	OFF: To defeat audio limiter for normal audio tracks. ON: To activate audio limiter for normal audio tracks to avoid over-level recording. (Audio recording level adjustment is possible with limiter ON.)
	203	AUDIO OUT	[00] 01 02	[SEP.] Hi-Fi NORM	Selects output signals via rear panel AUDIO OUT connectors. SEP.: To output as labelled: normal audio from NORMAL AUD-1/AUD-2, Hi-Fi audio from Hi-Fi L/R. Hi-Fi: To output Hi-Fi audio from all connectors: NORMAL AUD-1 outputs Hi-Fi left-channel signal and NORMAL AUD-2 outputs Hi-Fi right-channel signal. NORM: To output normal audio from all connectors: Hi-Fi L outputs normal audio-1 signal and Hi-Fi R outputs normal audio-2 signal.
	204	Hi-Fi OUT AT SEARCH	[00] 01	[MUTE] NORM	Selects output signals via rear panel Hi-Fi AUDIO OUT connectors during search. MUTE: To output muted Hi-Fi audio. NORM.: To output normal audio.
	205	AUD-1 REC.	[00] 01	[AUD-1] AUD-1/2 MIX	Selects audio signals to be recorded on the normal audio-1 track. AUD-1: Audio signals input to AUD-1 are recorded. AUD-1/2 MIX: Mixed audio signals input to AUD-1 and AUD-2 are recorded. (Levels are controlled independently with the corresponding control.) Nothing is recorded on the normal audio-2 track unless menu item #206 is set to "01 – LTC".
	206	AUD-2/LTC *2	[00] 01	[AUD-2] LTC	Selects signals to be recorded on the normal audio-2 track. AUD-2: Audio signals input to AUD-2 are recorded. LTC: LTC signal is recorded.
SYSTEM	300	DIRECT EJECT	00 [01]	DISABLE [ENABLE]	DISABLE: EJECT command is accepted only from Stop mode. ENABLE: EJECT command is accepted from any mode.
	301	DIRECT SEARCH	00 [01]	DISABLE [ENABLE]	DISABLE: Jog/Shuttle dials do not function unless JOG/SHTL button is pressed first. ENABLE: Jog/Shuttle dials function directly from Stop, Play, Still, FF and REW modes.
	302	AUTO REC. PREROLL	00 [01]	DISABLE [ENABLE]	DISABLE: Enters Record-Pause mode without preroll. Picture will be distorted at record-start point. ENABLE: Enters Record-Pause mode with preroll of about 3 seconds.
	303	WARNING INHIBIT	[00] 01	[OFF] ON	OFF: Malfunctions are detected for warning indications. Normally keep set to this position. ON: Detection of malfunctions is inhibited. No warning indication is available.
	304	RECORDING INHIBIT	[00] 01	[OFF] ON	OFF: Recording is possible with cassettes with safety tab in place. ON: Recording is inhibited regardless of the presence of safety tab. Use this position if the VCR is used only as a player.
	305	REPEAT REC.	[00] 01	[DISABLE] ENABLE	This setting is for manufacturer adjustment purposes only. Always keep set to DISABLE.

Menu No.		On-Screen Description	Settings		Explanation
			Counter	On-Screen	
SYSTEM	306	LONG PAUSE	00 [01]	DISABLE [ENABLE]	DISABLE: To defeat Long Pause function. ENABLE: To use Long Pause function in Standby-On, Still and Record-Pause modes. (Long Pause parameters are selected with menu items #307, #308 and #309.)
	307	LONG PAUSE TIME	00 01 02 03 04 05 06 [07]	1 SEC 10 SEC 30 SEC 1 MIN 2 MIN 3 MIN 4 MIN [5 MIN]	With menu item #306 set to ENABLE, selects the length of time before normal Pause (Standby-On, Still and Record-Pause) mode changes to Long Pause.
	308	LONG PAUSE (STILL)	00 01 [02]	STANDBY-OFF T. RELEASE [STEP FWD]	Selects the contents of Long Pause mode. (After the time set with menu item #307 expires in Still or Record-Pause mode, the VCR operates as specified.) STANDBY-OFF: Enters Standby-Off mode. T. RELEASE: Tension arm is released for tape protection. Still pictures continue to be available. STEP FWD: Tape advances in slow-motion for about 2 seconds (about 2 frames). This action is repeated 5 times at the time intervals set with menu item #307. The VCR enters the Standby-Off mode after the final interval.
	309	LONG PAUSE (STOP)	[00] 01 02	[STANDBY-OFF] T. RELEASE STEP FWD	Selects the contents of Long Pause mode. (After the time set with menu item #307 expires in the Standby-On mode, the VCR operates as specified.) STANDBY-OFF: Enters Standby-Off mode. T. RELEASE: Tension arm is released for tape protection. STEP FWD: Tape advances in slow-motion for about 2 seconds (about 2 frames). This action is repeated 5 times at the time intervals set with menu item #307. The VCR enters the Standby-Off mode after the final interval.
	310	STANDBY-OFF MODE	00 [01] 02	DRUM ON [DRUM OFF] UNLOAD	Selects the status of Standby-Off mode. DRUM ON: Head drum continues to rotate with tape loaded. DRUM OFF: Head drum stops rotating with tape loaded. UNLOAD: Head drum stops rotating and tape unloads.
	311	MODE AT TAPE BEGIN	[00] 01	[SHORT-FF] PLAY	Selects the mode entered when the beginning of the tape is detected. SHORT-FF: Fast-forwards the leader section and enters Standby-On mode. PLAY: Enters Play mode.
	312	MODE AT TAPE END	[00] 01	[SHORT-REW] REW	Selects the mode entered when the end of the tape is detected. SHORT-REW: Rewinds the leader section and enters Standby-On mode. REW: Rewinds to the beginning of tape and enters Standby-On or Play mode depending on the setting of menu item #311.
	313	PB•PB/EE	00 [01]	PB/EE [PB]	Selects output signal in the mode specified with menu item #314. PB/EE: Outputs EE signal. PB: Outputs playback signal.
	314	PB/EE MODE	[00] 01	[STOP /FF/REW] STOP	Selects the mode in which EE signal is output. STOP /FF/REW: EE signal is output in Stop, FF and REW modes. STOP : EE signal is not output in FF and REW modes.
	315	LOCAL FUNCTION	[00] 01 02 03	[STOP ,EJECT] STP,EJ,PLY,FF, RW,STL ALL ENABLE ALL DISABLE	Selects functions that can be locally operated when front panel REMOTE switch is set to 9PIN or REM-2.

Menu No.		On-Screen Description	Settings		Explanation
			Counter	On-Screen	
SYSTEM	316	9PIN CMD FUNCTION	[00] 01	[ALL DISABLE] STOP ,EJECT	Selects 9-pin remote control commands that are acceptable when front panel REMOTE switch is set to LOCAL. ALL DISABLE: Accepts no command from 9-pin remote control. STOP ,EJECT: Accepts STOP and EJECT commands only. (Note: With some remote controls, no command is accepted.)
	317	9PIN DEVICE TYPE ID	[00] 01 02 03	[JVC SVHS-1] JVC SVHS-2 OTHER TYPE-1 OTHER TYPE-2	Selects device type ID returned from VCR to 9-pin remote control in response to its request. JVC SVHS-1: Use this setting with BR-S622E/BR-S822E. JVC SVHS-2: Use this setting if SA-F911E is included in the system. OTHER TYPE-1/OTHER TYPE-2: Consult a JVC dealer.
	318	TC DATA W/O TC BOARD	[00] 01	[TC MISSING] CTL DATA	Selects VCR's response to 9-pin remote control when remote control requests time code data when TC board is not installed. TC MISSING: VCR returns code meaning TC MISSING. CTL DATA: VCR returns substitute CTL data.
	319	TAPE MAX SPEED	[00] 01 02	[X100] X32 X16	Selects maximum tape speed (full-size cassette only). (FF and REW speeds also correspond to this setting. In the 100x mode, the EE signal is output. In the 32x and 16x search modes, the playback signal is output. The CTL signal is output in the 16x search mode using the RM-86U 45-pin remote control.)
	320	PREROLL TIME	00 ⋮ [07] ⋮ 15	0 SEC ⋮ [7 SEC] ⋮ 15 SEC	Selects preroll time in one-second steps from 0 to 15 seconds.
	321	TIME REF. FOR PREROLL	00 [01]	CTL [TC]	Selects time count reference for preroll in TC operation. CTL : Refers to CTL counts. Preroll is possible even when time codes are missing. TC : Refers to time codes.
	322	IN POINT AUTO ENTRY	00 [01]	NOT ENTERED [ENTERED]	Activates or defeats automatic IN point entry function. NOT ENTERED: IN point is not entered automatically by pressing PREROLL button. ENTERED: IN point is entered automatically by pressing PREROLL button if no IN point has been previously entered.
	323	MODE AFTER PREROLL	[00] 01	[STOP] STILL	STOP : Enters Stop mode after preroll is completed. STILL : Enters Still mode after preroll is completed.
	324	EDIT FIELD	[00] 01	[1st] 2nd	1st: Starts recording on the first field and ends on the second field. 2nd: Starts recording on the second field and ends on the first field. Use this setting when inserting two pictures in one frame for animation.
	325	CTL COUNTER MODE	[00] 01	[±9H] 24H	±9H: Counter shows from –9 to +9 hours in CTL mode. 24H: Counter shows from 0 to 24 hours in CTL mode.
	326	CTL COUNTER MEMORY	[00] 01	[OFF] ON	OFF: No counter memory function is available. ON: Enters Stop mode at CTL counter reading of zero in FF and REW modes.
	327	CTL CLEAR AT EJECT	00 [01]	DISABLE [ENABLE]	DISABLE: CTL counter is not reset when cassette is ejected. ENABLE: CTL counter is reset when cassette is ejected.

Menu No.		On-Screen Description	Settings		Explanation
			Counter	On-Screen	
SYSTEM	332	CASSETTE SEL. INHIBIT	[00] 01	[OFF] ON	OFF: Cassette size selection is possible with the CASSETTE SELECT button on the front panel. ON: Cassette size selection is inhibited.
	333	CF SERVO LOCK REPLY	00 [01]	DISABLE [ENABLE]	Selects information to deliver to 9-pin remote. DISABLE: Colour frame servo lock cannot be engaged. ENABLE: Colour frame is locked to 4-field colour framing mode.
	334	CF RE-LOCK AT PLAY	[00] 01	[DISABLE] ENABLE	Activates or defeats colour frame re-lock function when colour frame lock is disengaged in Play mode.
TIME CODE	400	VITC POSITION-1	00 ⋮ [12] ⋮ 15	7LINE ⋮ [19LINE] ⋮ 22LINE	Selects the horizontal scanning line on which VITC data is stored. Selectable from line 7 to line 22 in the vertical blanking interval. • Do not select line 11 in S-VHS recording as this is reserved for AUTO EQ. • When using the SA-T22E TBC board, set above line 9.
	401	VITC POSITION-2	00 ⋮ [14] ⋮ 15	7LINE ⋮ [21LINE] ⋮ 22LINE	Selects the horizontal scanning line on which VITC data is stored. Selectable from line 7 to line 22 in the vertical blanking interval. (Two lines per field are used to store VITC data.) • Do not select line 11 in S-VHS recording as this is reserved for AUTO EQ signal. • When using the SA-T22E TBC board, set above line 9.
	403	TCG REGEN MODE	[00] 01 02	[TC & UB] TC UB	Selects code data to be regenerated in Internal Regen mode (with TC board's INT/EXT switch set to INT and PRESET /REGEN switch set to REGEN.) TC & UB: Records both time code and user bit data in Regen mode. TC: Records time code data in Regen mode and user bit data in Preset mode. UB: Records user bit data in Regen mode and time code data in Preset mode.
	404	TC SOURCE AT REGEN	[00] 01	[LTC] VITC	Selects the type of reference time code in the Regen mode. LTC : Reference code is LTC. VITC : Reference code is VITC.
	405	LTC OUT (REGEN)	[00] 01	[OFF TAPE] TCG	Selects output signal from TIME CODE OUT connector while playback is in progress in Internal Regen mode. OFF TAPE: Outputs time code signal picked up from tape. TCG: Outputs time code signal regenerated by TC generator.
	406	U-BIT BINARY GROUP	[00] 01 02 03	[NOT SPECIFIED] ISO CHAR. UNASSIGNED-1 UNASSIGNED-2	Selects character set configuration to use TC generator's user bits. NOT SPECIFIED: Character set configuration is not specified. ISO CHAR.: 8-Bit character set conforming to ISO 646 and ISO 2022 (with binary group flags at bit counts 43 and 59 in LTC; at 55 and 75 in VITC.) UNASSIGNED-1: Undefined. UNASSIGNED-2: Undefined.
	407	PHASE CORRECTION BIT	00 [01]	OFF [ON]	Selects recording of LTC phase correction bit (parity bit for bit error check). OFF : Not recorded. (Use this setting if 10s readout is not correct with external TC reader connected.) ON: Recorded.
	408	VITC LINE	[00] 01	[VITC MIX] CLEAN ONLY	Selects whether lines set with menu items #400 and #401 are to be cleaned in recording. VITC MIX: VITC is recorded after lines are cleaned. CLEAN ONLY: Lines are cleaned.
	409	EXT REGEN TC	[00] 01	[LTC] VITC	Selects the type of externally input reference time code in External Regen mode. LTC: To use LTC via TIME CODE IN connector. VITC: To use VITC via VIDEO IN connector.

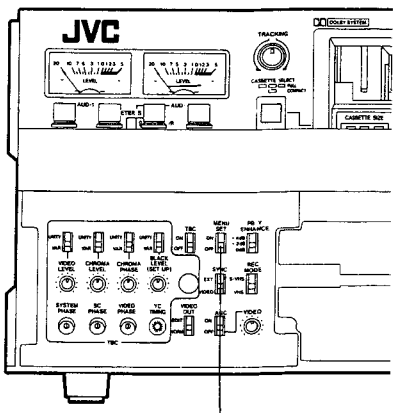
Menu No.		On-Screen Description	Settings		Explanation
			Counter	On-Screen	
ON-SCREEN	500	ON-SCREEN DISPLAY	00 [01]	OFF [ON]	OFF: No data is displayed on-screen. ON: Data is displayed on-screen.
	501	CHAR. H-POSITION	[00] ⋮ 08	[00] ⋮ 8	Adjusts on-screen VCR data display position in the horizontal direction. 0 : VCR data is displayed at the rightmost position. 1 - 8: Display position shifts to the left with increasing numbers.
	502	CHAR. V-POSITION	[00] ⋮ 09	[00] ⋮ 9	Adjusts on-screen VCR data display position in the vertical direction. 0 : VCR data is displayed at the bottom of screen. 1 - 9: Display position shifts up with increasing numbers.
	503	CHAR. BACKGROUND	[00] 01 02	[BORDER] SEMI. BLACK	BORDER: Displays bordered characters. SEMI.: Displays semi-transparent characters. BLACK : Displays characters on black background.
	504	INFORMATION	00 [01]	TIME [TIME & MODE]	Selects available on-screen information. TIME: Time counter data. TIME & MODE: Time counter data, operation mode and Jog/Shuttle tape speed.
TBC	600	TBC FREEZE	[00] 01	[DISABLE] ENABLE	Selects the mode of still pictures in TBC operation. DISABLE: Outputs normal still pictures. ENABLE: Outputs 'freeze' still pictures from TBC's field memory when PAUSE/STILL button is pressed while in Play mode.
	601	V BLANK MASK	[00] 01	[OFF] ON	Activates or defeats vertical blanking interval masking function in TBC operation. OFF: No masking function. ON: Masks the entire vertical blanking interval in playback to erase VITC. VITC readout is impossible with this setting.

*1: When you set this item to "02 – REC 2.25H/PB 1.25H" in recording, be sure to set it to this position when playing back the tape in the TBC mode.
*2: When playing back a tape with no LTC recorded on the normal audio-2 track, set this item to "00 – AUD-2".

ROM VERSION/HOUR METER DISPLAY

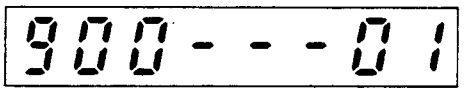
By engaging the Menu Set mode, you can also check the numbers of device ROMs and the hour meter.

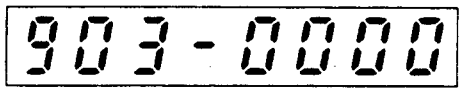
1. Set the MENU SET switch to ON.
   - The set-up menu appears on the monitor screen. The counter display will also switch to the Menu Set mode.
   - The Menu number (000) for the first item will blink.
2. Turn the Jog dial to locate items with numbers in the order of 900.
   - For quicker location, turn the Jog dial counterclockwise.



MENU SET switch

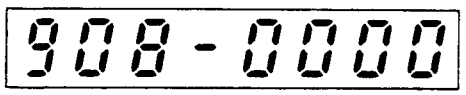
Counter Display

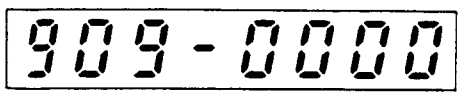


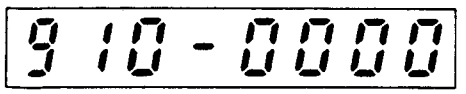


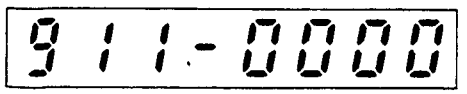
On-Screen Display

900:SYSCON ROM Ver.
01
901:MECHACON ROM Ver.
01
902:OPERATION ROM Ver.
01
903:SLOT ROM Ver.
NO CONNECT 00
AVM/OS ROM Ver.
04









908:POWER HOUR METER
0000H
909:DRUM HOUR METER
0000H
910:CAP HOUR METER
0000H
911:REEL HOUR METER
0000H

Menu No.	On-Screen Description	Explanation
900	SYSCON ROM Ver.	Indicates version number of SYSCON ROM.
901	MECHACON ROM Ver.	Indicates version number of MECHACON ROM.
902	OPERATION ROM Ver.	Indicates version number of OPERATION ROM.
903	SLOT ROM Ver.	Indicates version number of SLOT ROM. This item also shows the type of remote control installed in the slot. Available indications are: JVC45PIN (20 on 5th and 6th digits on counter display) RS-232C (21 on 5th and 6th digits on counter display) NO CONNECT (00 on 5th and 6th digits on counter display)
---	AVM/OS ROM Ver.	Indicates version number of AV microcomputer/on-screen ROM.
908	POWER HOUR METER	Indicates the total time (up to 4 digits in hours) the VCR has been powered.
909	DRUM HOUR METER	Indicates the total working time of the drum motor in hours.
910	CAP HOUR METER	Indicates the total working time of the capstan motor in hours.
911	REEL HOUR METER	Indicates the total working time of the reel motors in hours.

CAUTION
Do not set the following three settings together:
Menu item #303 WARNING INHIBIT — 01 ON, #305 REPEAT REC. — 01 ENABLE and #306 LONG PAUSE — 00 DISABLE.
We are not responsible for any malfunctions caused by this combination of settings.

WARNING DISPLAY

DIAGNOSTIC CODES

The WARNING display uses numerical codes to indicate various malfunctions and warnings on the counter display. Worded warning messages are provided on-screen. In some cases, power must be turned off before the machine can be recovered. When the AUTO OFF indicator lights, power must be turned on and off again before the machine can be recovered.

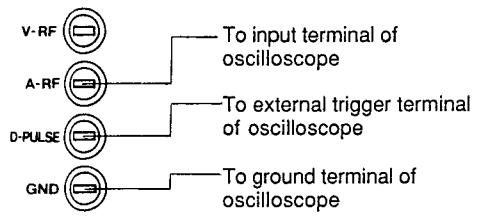
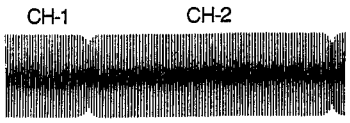
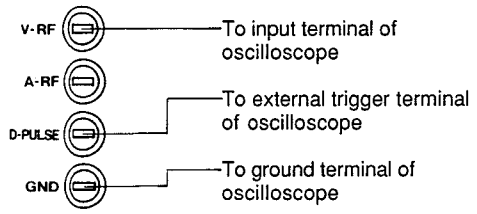
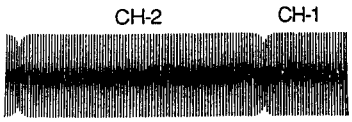
	AUTO OFF Indicator	Display code	WARNING (On-Screen Display)	Symptom/Operation
Sensors	YES	01	WARNING 01 LAMP FAILURE	Tape-end sensor LED burns out. The cassette will be ejected. All controls become inoperative.
	YES	02	WARNING 02 CONDENSATION ON DRUM	Moisture condensation on drum and in transport. The cassette is ejected. After ejection, the drum starts rotating and cassettes cannot be loaded until condensation has been eliminated. Do not turn the power off until the AUTO OFF indicator goes out.
	YES	08	WARNING 08 SUP TENSION FAILURE	Slack tape on the supply reel. All controls become inoperative.
Loading Mechanism		32	WARNING 32 FAILURE LOADING	Tape cannot load correctsy. Tape unloads and the cassette is ejected. The display turns off when a cassette is inserted again. Normal operation is restored.
	YES	33	WARNING 33 FAILURE UNLOADING	Tape cannot unload. All controls become inoperative.
Cassette Carriage	YES	41	WARNING 41 CASSETTE EJECT FAILURE	Cassette carriage does not lift during tape ejection (even after 3 seconds have passed). All controls become inoperative.
Leader Tape Detection		56	WARNING 56 TAPE DEFECTIVE	Tape beginning and end sensors turn ON during loading because the tape is broken. The cassette is ejected. If the cassette fails to load properly, it may get stuck in the cassette slot. In this case, remove it by hand.The display turns off when an undamaged cassette is inserted. Normal operation is restored.
		57	WARNING 57 END LEADER DETECTION	Tape-end sensor turns ON during loading. Rewind mode is engaged. If the leader tape is detected within 3 seconds, the cassette is ejected. The display turns off when a cassette is inserted again. Normal operation is restored.
		58	WARNING 58 BEGIN LEADER DETECTION	Tape-beginning sensor turns ON during loading. FF mode is engaged. If the leader tape is detected within 3 seconds, the cassette is ejected. The display turns off when a cassette is inserted again. Normal operation is restored.

	AUTO OFF Indicator	Dis-play code	WARNING (On-Screen Display)	Symptom/Operation
Rotating System	YES	70	WARNING 70 DRUM MOTOR FAILURE	Drum motor stops. All controls become inoperative. Recovers when a cassette is inserted again.
	YES	71	WARNING 71 CAP MOTOR FAILURE	Capstan motor stops. All controls become inoperative. Recovers when a cassette is inserted again.
	YES	72	WARNING 72 SUP REEL MOTOR FAILURE	Supply reel rotates abnormally. All controls become inoperative. Recovers when a cassette is inserted again.
	YES	73	WARNING 73 TU REEL MOTOR FAILURE	Take-up reel rotates abnormally. All controls become inoperative. Recovers when a cassette is inserted again.
Others	YES	04	WARNING 04 REEL SERVO FAILURE	Power supply to reel tension servo stops. All controls become inoperative.
		IE	INVALID OPERATION	Invalid command has been given. (eg. S-VHS recording on a VHS cassette, Record or Edit command with VCR set to RECORDING INHIBIT, etc.)

Cassette insertion is not possible if the cassette slot remains open after cassette ejection. In this case, press the EJECT button to close the slot door, and insert the cassette again.

TEST POINTS

The output signals from the Hi-Fi audio heads and video heads are available at the front panel test points. Connect an oscilloscope to these test points to check the VCR's performance and condition.

Connection	Items to be checked	Standard waveform
Hi-Fi audio head output 	• Tape-to-head contact • Tape running stability • Inferior RF after head replacement • RF recording level	• "+" triggered 
Video head output 	• Compatibility of tape pattern • Tape-to-head contact • Tape running stability • Tracking • Video signal recording level • Abnormality in RF Use a 10:1 probe	• "+" triggered 

AUTOMATIC EQUALISER

To prevent deterioration of the luminance signal frequency caused by worn heads, or when using tapes with different signal characteristics or that have been over-played, the BR-S622E incorporates an automatic equaliser (AUTO EQ) circuit which functions in the S-VHS mode. The reference signal to operate this circuit is added to one H line of the vertical blanking time. Prior to shipment, the BR-S622E is preset to add the reference signal to line 11. If VITC (Vertical Interval Time Code) or VITS (Vertical Interval Test Signal) is inserted in this line, these signals will be erased. If you do not want these signals erased, consult a JVC service agent.

NOTE:
The AUTO EQ circuit does not function if the reference signal reading position differs from the position of the reference signal added in recording. It will also malfunction if VITC or VITS is recorded at the reference signal reading position.

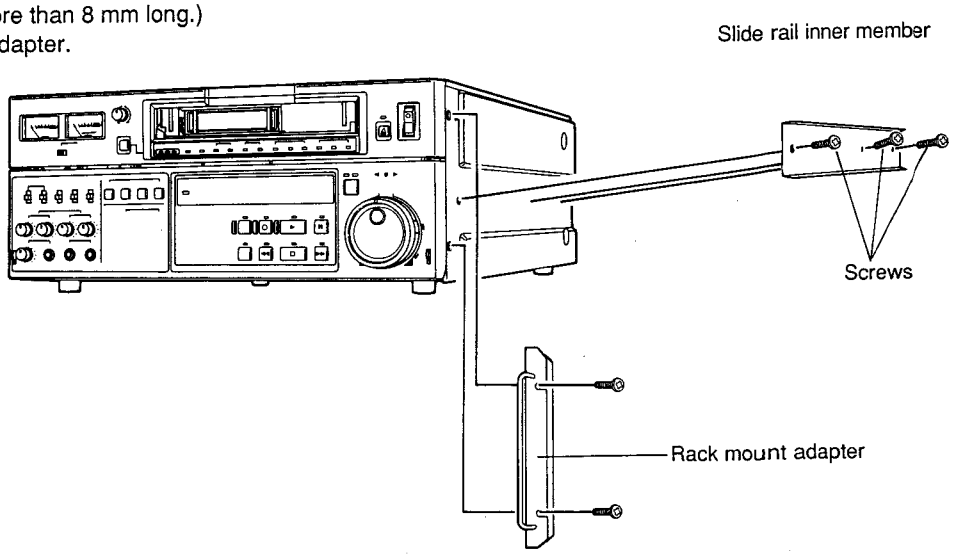
INSTALLATION

RACK MOUNTING

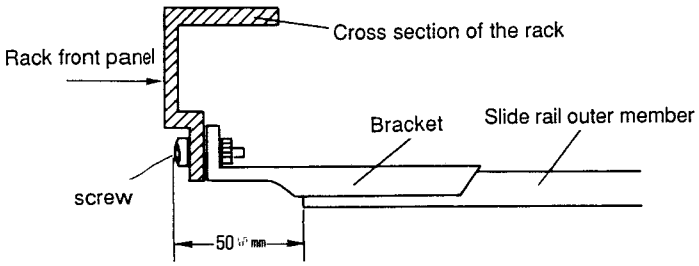
Using the optional SA-K63UB Rack Mount Adapter, you can install the BR-S622E in a 19" EIA-standard rack.

- Use a complete slide and bracket unit such as the Accuride slide and bracket unit (Part No. C-2038-22/BK-2038).
- For more details, consult your local JVC service agent.

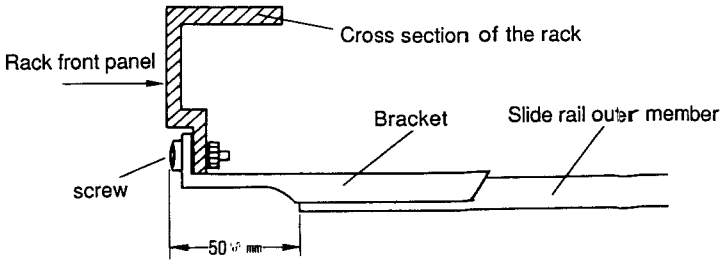
1. Attach the inner members of the slide rails with screws as illustrated. (Screws should be no more than 8 mm long.)
2. Attach the SA-K63UB rack mount adapter.



3. Attach the right and left brackets and outer members of the slide rails to the rack.
   - When installing the bracket at the back of the rack's panel surface.



   - When installing the bracket at the front of the rack's panel surface.



* Adjust the distance between the front panel and the slide rail to between 50 and 55 mm.

4. Check that the unit slides in and out smoothly.

NOTE:

- The rack mount adapter handle is only for sliding the unit. Do not carry the unit holding the handle.

CONNECTOR SPACIFICATIONS

9-Pin Remote Connector

Pin No.	Local	Remote
1	GND	GND
2	RECEIVE A	TRANS A
3	TRANS B	RECEIVE B
4	GND	GND
5	—	—
6	GND	GND
7	RECEIVE B	TRANS B
8	TRANS A	RECEIVE A
9	GND	GND

Y/C 443 7-Pin Connector

Pin No.	Signal
1	Y SIGNAL
2	GND (Y SIGNAL)
3	—
4	—
5	C SIGNAL
6	GND (C SIGNAL)
7	—

XLR 3-Pin Connector

Pin No.	Signal
1	GND
2	COLD
3	HOT

15-Pin Remote Connector (option)

Pin No.	Signal
1	FG
2	+12V
3	GND
4	VIDEO LEVEL
5	CHROMA LEVEL
6	CHROMA PHASE
7	SET UP LEVEL
8	RSVD DC 1
9	RSVD DC 2
10	REMOTE EN
11	FREEZE EN
12	RSVD CTL 1
13	RSVD CTL 2
14	OPERATE
15	GEN LOCK

45-Pin Remote Connector (option)

1	GND ◁		21	V SPEED CTL ◁	ANALOG
2	REC CMD ◁	⊓→	22	EDIT TALLY ▶	
3	STOP CMD ◁	⊓→	23	STILL TALLY ▶	
4	PLAY CMD ◁	⊓→	24	SEARCH TALLY ▶	
5	FF CMD ◁	⊓→	25	PREROLL TALLY ▶	
6	REW CMD ◁	⊓→	26	FF TALLY ▶	
7	FWD CMD ◁	⊓→	27	PLAY TALLY ▶	
8	SEARCH CMD ◁	⊓→	28	STOP TALLY ▶	
9	REV CMD ◁	⊓→	29	REW TALLY ▶	
10	STILL CMD ◁	⊓→	30	REC TALLY ▶	
11	PREROLL CMD ◁	⊓→	31	TAPE REV ▶	
12	E. START CMD ◁	⊓→	32	CTL PULSE ▶	
13	E. STOP CMD ◁	⊓→	33	NC ▶	
14	PREVIEW CMD ◁	⊓→	34	12V DC ▶	
15	REMOTE CMD ◁	⊓→	35	CTL PULSE ▶	
16	A1 INS CMD ◁	⊓→	36	EE CMD ◁	⊓→
17	A2 INS CMD ◁	⊓→	37	X2 CMD ◁	⊓→
18	V INS CMD ◁	⊓→	38		
19	SERVO LOCK ▶		39	X1/5 CMD ◁	⊓→
20	ASSEM CMD ◁	⊓→	40	DFR STOP CMD ◁	⊓→
			41	X1 CMD ◁	⊓→
			42	EXTERNAL CAP SEARCH ◁	⊓→
			43	VHS ▶	
			44		⊓→
			45	EJECT CMD ◁	

◁ TO VTR
▶ FROM VTR
⊓→ PULSE ⊓→ STATUS

Y-686/924 7-Pin Output (option)

Pin No.	Signal
1	GND (Y SIGNAL)
2	Y SIGNAL
3	—
4	—
5	C SIGNAL
6	GND (C SIGNAL)
7	COLOUR FRAME PULSE

SPECIFICATIONS

GENERAL

Format	:	VHS/S-VHS Europe standard
Power consumption	:	90 W
Power requirment	:	AC 110 – 127 V/220 – 240 V~, 50/60 Hz
Dimensions	:	42.9 (W) X 18.8 (H) X 56.5 (D) cm
Weight	:	23 kg
Operating temperature	:	5°C to 40°C
Storage temperature	:	–20°C to 60°C
Tape speed	:	23.39 mm/sec
Recording & Playback time	:	Max. 180 min. with JVC SE-180/E-180
Fast forward/ Rewind time	:	Less than 2.5 min. for 180 min. tape

VIDEO

Recording and playback	:	Rotary two-head helical scanning system
Luminance	:	FM recording
Colour signal	:	Phase shift, converted sub-carrier direct recording
Video signal system	:	PAL-type colour signal/PAL-type Y/C signal
Input		
Line	:	1.0 Vp-p, 75 ohms, unbalanced
Y/C 443	:	Y: 1.0 Vp-p, 75 ohms, unbalanced C: 0.3 Vp-p, 75 ohms, unbalanced (Burst)
Output		
Line	:	1.0 Vp-p, 75 ohms, unbalanced
Y/C 443	:	Y: 1.0 Vp-p, 75 ohms, unbalanced C: 0.3 Vp-p, 75 ohms, unbalanced (Burst)
Signal-to-noise ratio	:	More than 46 dB (S-VHS) More than 45 dB (VHS)
Horizontal resolution	:	More than 400 lines (S-VHS) More than 250 lines (VHS)
Reference video input	:	0.3 to 1.0 Vp-p, 75 ohms, unbalanced (with loop-through, with the SA-T22E)
External sync input	:	0.3 to 4.0 Vp-p, 75 ohms, unbalanced (with one loop-through, without the SA-T22E)

AUDIO

Input		
Line	:	–6/0/+4 dBs, 10 k-ohms/600 ohms, balanced (Hi-Fi/Normal)
Mic	:	–67 dBs, 10 k-ohms, unbalanced
Output		
Line	:	–6/0/+4 dBs, Low impedance, balanced (Hi-Fi/Normal)
Monitor	:	–6 dBs, Low impedance, unbalanced
Phones	:	∞ to –17 dBs, 8 ohms
Signal-to-noise ratio	:	More than 43 dB (NR-off, Normal at 3% distortion)
Dynamic range	:	More than 87 dB (Hi-Fi)
Frequency response	:	20 to 20,000 Hz (Hi-Fi) 40 to 12,000 Hz (Normal)
Wow & flutter	:	Less than 0.005% WRMS (Hi-Fi) Less than 0.3% RMS (Normal)

TIME CODE

Input	:	0 dB ± 6 dBs, 10 k-ohms, unbalanced
Output	:	0 dB ± 3 dBs, Low impedance, unbalanced

CONNECTORS

Video		
Line input	:	BNC-type connector
Line output	:	BNC-type connectors
Y/C 443 input/output	:	7-pin connectors
Monitor	:	BNC-type connector
Audio		
Hi-Fi input/ output	:	XLR connectors
Normal input/ output	:	XLR connectors
Monitor	:	RCA connector
Remote control	:	9-pin connector

Design and specifications subject to change without notice.

SICHERHEITSHINWEISE

SPANNUNSGVERSORGUNG
Anschluß an das Netz
Die Betriebsspannung dieses Geräts ist werksseitig auf 220 – 240 V Wechselspannung eingestellt.
Überprüfen Sie, ob der Spannungswähler auf der Geräterückseite auf die erforderliche Netzspannung eingestellt ist, bevor Sie das Gerät an das Netz anschließen.
Einstellung auf die örtliche Netzspannung
Dieses Gerät kann mit 110 – 127 V/220 – 240 V~ Wechselspannung, 50/60 Hz, betrieben werden. Wenn die voreingestellte Spannung nicht mit der örtlichen Netzspannung übereinstimmt, muß der Spannungswähler umgestellt werden. Hierzu einen Schraubendreher am Schlitz des Spannungswählers ansetzen und auf den erforderlichen Wert drehen.

Dieses Gerät entspricht EWG-Richtlinien 76/889, 82/499 und 87/308 sowie IEC-Veröffentlichung 65.

ACHTUNG:
SCHÜTZEN SIE DIESES GERÄT VOR NÄSSE UND FEUCHTIGKEIT, DAMIT ES NICHT IN BRAND GERÄT UND KEIN KURZSCHLUSS ENTSTEHT.

ACHTUNG
Das Gehäuse nicht öffnen, um Stromschläge zu vermeiden. Im Innern befinden sich keine Teile, die vom Benutzer gewartet werden können. Überlassen Sie die Wartung qualifiziertem Service-Personal.

Hinweis: Das Typenschild und die Sicherheitshinweise befinden sich an der Unterseite des Geräts.

ACHTUNG:
Ton- und Bildaufzeichnungen, bei der die Signale von Bild- und Tonträgern sowie Sende- oder Vorführprogrammen jeder Art ohne Zustimmung des Urheberechtshabers (auch im Sinne des literarischen, dramatischen, musikalischen oder künstlerischen Gehalts) kopiert werden, können gegen bestehende Gesetze verstoßen.